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## STATE NORMAL SCHOOL

RICHMOND, KENTUCKY

HISTORY  
BULLETIN

UNIVERSITY OF ILLINOIS

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Prepared by History Department

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CHAS. A. KEITH, Head of Department.  
WREN JONES GRINSTEAD, Professor of Ancient History.  
H. W. DUTTER and MISS ELLA M. HANAWALT, Teachers of History in Model High School.  
MISS EMMA HEMLEPP, Teacher of History in Model School.

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1915

# STATE NORMAL SCHOOL

## A TRAINING SCHOOL FOR TEACHERS

### Courses of Study

(N. B.—Write for Catalogue for Detailed Courses.)

The State Normal provides for the following courses:

- 1—Preparatory Course.
- 2—State Certificate Course—Elementary.
- 3—State Certificate Course—Intermediate.
- 4—State Certificate Course—Advanced.
- 5—County Certificate Course.
- 6—Special Courses—
  - (a)—Rural Teachers' Course.
  - (b)—High School Course.
  - (c)—Agricultural Course.
  - (d)—Home Economics.
  - (e)—Public School Music.
  - (f)—Manual Training.
  - (g)—Drawing.
  - (h)—Expression.
  - (i)—Penmanship.
  - (j)—Piano, Voice and Violin.
  - (k)—Additional special courses in School Management, Psychology, Child Study, The History, Philosophy and Practice of Education, Educational Problems in Kentucky, Primary Methods, Special Methods, Physical Culture, Gymnasium, Athletics, Nature Study, Biology, Physiology and Hygiene, Geography, Physics, Chemistry, English Grammar, Composition and Rhetoric, English Literature, American Literature, Literature of the Bible, Latin, German, French, History, Economics, Sociology, Civil Government, Mathematics, Primary Handwork, Ethics, Professional Reading, General Method, Library Methods, Observation and Practice Teaching.
- 7—Professional and Academic Courses for Primary Teachers.
- 8—Professional and Academic Courses for Upper Grade Teachers.
- 9—Professional and Academic Courses for High School Teachers.

J. G. CRABBE, President.

## POLICY OF THE HISTORY DEPARTMENT

It is and shall be the policy of this department to fit in with the general progress and work of the school and co-operate with other departments in the best interest of the students. It shall, at the same time, be the intention of the department to add to its own strength as the years go on, and to keep actively in touch with the best historical thought and writing. Our intention is not only to give the student of history the ability to master the facts in the text books that we use but also to give enough of the historical method to enable the student to read widely and read intelligently. If there is one point that the department believes in stressing more than others, it is the logic of history. Many students of history know enough facts in the subject, but very few students gain the ability to connect and associate facts that ought to go together. Care has been taken to arrange the courses so that each course, as nearly as may be, forms a basis and kind of prerequisite; and we are sure that many of our students miss much of the value of the work in this department by failure to take the courses as they are arranged. It is not enough that a teacher should merely know a subject—he must know it in a logical way and be able to present it to others so that the others can get it. **We must teach teachers to teach.**

Prof. Chas. A. Keith, head of the department, has published during the year two pamphlets, *Notes and Outlines in Civil Government*, and *A Supplement on Kentucky History*. He is now engaged by one of the larger companies to write a *History of Kentucky*, and is busy gathering material and planning the book. Prof. Keith is a member of the American Historical Association, and during the year he has been elected to membership in the American Political Science Association Committee for Kentucky, and to the National Historical Society, of which he has also been elected to a vice-presidency.

Prof. Wren Jones Grinstead, instructor of Ancient History, has been elected to a fellowship in Wisconsin University, where he will be next year completing his thesis for the Ph. D. He has his thesis planned and some of the work done in its preparation. It cannot be finished, however, until he reaches Madison and does the experimental part of it. Prof. Grinstead is head of the Ancient Language Department, and he is a member of the American Historical Association and of the American Folklore Society.

The school as a whole is growing every year; and it is noticeable in recent years that more and more graded and high school teachers are coming to Eastern for special courses. It is the policy of the department to make all the courses in history special courses.

## COURSES IN HISTORY

The following courses are offered in the Normal School, and the students must preserve this sequence except by special permission of the head of the department, which will rarely be given. Note books must be kept by all students in all the courses, parallel reading in the library must be done, reports and essays must be prepared and a limited number of maps must be done. Names of teachers for the following courses are subject to change:

**Kentucky History, Prof. Boothe, Texts Keith's Kentucky Supplement and Kinhead.**—This is a brief course covering the main facts in the state's history and preparing the student for county examinations.

**History 1, Prof. Keith, Textbook Thwaites and Kendall.**—This course is designed to meet the double demand of preparing the student for county examinations and giving him a basis for more advanced work in American History.

**History 2, Prof. Keith, Textbook Muzzey's American History.**—This course attempts to give the student advanced work in United States History up to the adoption of the Constitution.

**History 3, Prof. Keith, Textbook Muzzey.**—This course finishes advanced American History.

**History 4, Prof. Grinstead and Miss Hanawalt, Textbook Botsford's History of the Ancient World.**—This is a very thorough course in Greek History.

**History 5, Prof. Grinstead and Miss Hanawalt, Textbook Botsford.** •  
—This course gives a comprehensive grasp of Roman History.

**History 6, Prof. Keith, Textbook Harding's New Mediaeval and Modern History.**—This course gives the student a general view of Mediaeval History as a basis for Modern History.

**History 7, Prof. Keith, Textbook Harding.**—This course is one of the broadest and most educative that is offered by the department. It covers Modern History complete.

**History 8, Prof. Keith, Textbook Cheyney's Short History of England.**—This course covers English History entire and helps to enlighten students on American History.

**History 9, Prof. Keith.**—This is a special course given sometimes to advanced students. It covers special work in Kentucky History, special periods of American History, or of European History.

# COMPARATIVE CHRONOLOGY OF KENTUCKY AND THE NATION

Prepared by Prof. Keith

Kentucky	The Nation
1669 Discovery of Kentucky by La Salle.	1669 Beginning of French exploration of the Mississippi.
1671 Captain Batts entered Eastern Kentucky.	1673 Marquette and Joliet on the Mississippi.
1684 The Governors of New York and Virginia treated for the purchase of the region south of the Ohio, including Kentucky, from Indians.	1682 La Salle finished his explorations of the Mississippi.
1730 John Salling of Virginia, exploring in Kentucky, was captured by Indians.	1733 Georgia was settled by James Oglethorpe.
1745 Extensive hostilities in Kentucky between the Shawnees on the north and the Cherokees on the south.	1745 Capture of Louisburg from the French.
1749 Dr. Thos. Walker of Virginia, came to Kentucky for the Loyal Company.	1748 End of King George's war.
1750 The Ohio Company sent Christopher Gist to Kentucky.	1751 The Manufacturing Act was passed over the colonies.
1754 James McBride descended the Ohio to the mouth of the Kentucky.	1754 The Albany Congress met.
1758 Second visit of Dr. Thos. Walker.	1759 Fall of Quebec.
1763 George III's proclamation and Pontiac's conspiracy involved the fate of Kentucky.	1763 The Treaty of Paris ended the French and Indian war.
1769 Daniel Boone first came to Kentucky.	1770 The Boston massacre.
1770 James Knox and his "long hunters" came to Kentucky.	1772 The Committees of Correspondence started.
1774 Battle of Point Pleasant.	1774 First Continental Congress.
1775 Settlement of Harrodsburg and Boonesboro.	1775 Battle of Lexington.
1778 Transylvania charter was annulled.	1777 Burgoyne's surrender.



## Kentucky

- 1778-'79 Clark's conquest of the Northwest Territory.
- 1780 The name Louisville was adopted at the Falls.
- 1780 Kentucky County divided into Jefferson, Fayette and Lincoln.
- 1782 Beginning of the struggle for statehood.
- 1786-'8 The Spanish conspiracy of Wilkinson.
- 1791 St. Clair's defeat by Indians.
- 1792 Kentucky admitted to statehood.
- 1792 Frankfort became the capital.
- 1794 Wayne's victory at Fallen Timbers.
- 1798 Kentucky and Virginia Nullification Resolutions.
- 1800 Second Constitution adopted.
- 1802 Right of merchandise deposit at New Orleans suspended.
- 1806 Burr's conspiracy.
- 1806 The Bank of Kentucky, Kentucky's first bank, established.
- 1817-'8 Forty-six banks chartered in Kentucky.
- 1818 The Jackson Purchase.
- 1824 Clay had risen to prominence.
- 1833 Clay's second compromise.
- 1834 Clay had regained political influence in Kentucky.
- 1837 Panic in Kentucky.
- 1844 Judge William Owsley became Governor.
- 1846-'8 Kentucky sent about one-fifth of the troops to the war.
- 1850 Clay's Omnibus bill.
- 1852 Death of Clay.
- 1856 J. C. Breckinridge Vice President.

## The Nation

- 1780 British forces in the South.
- 1781 The Articles of Confederation were adopted.
- 1781 Cornwallis' surrender at Yorktown.
- 1783 Peace with England was made.
- 1787 The great Ordinance organizing the Northwest Territory.
- 1789 The Constitution adopted.
- 1793 Washington proclaimed neutrality and Genet appeared.
- 1793 Invention of the cotton gin.
- 1795 Treaties with England and Spain.
- 1798 Alien and Sedition Laws.
- 1801 Jefferson became President.
- 1803 The Louisiana Purchase.
- 1807 Fulton's steamboat.
- 1808 The slave trade stopped.
- 1816 Recharter of the United States Bank.
- 1819-'21 The Florida Purchase.
- 1824 Clay was one of four candidates for President.
- 1832 Congress passed a new tariff.
- 1834 The Whig Party began with Clay as leader.
- 1837 Panic in the Nation.
- 1845 Texas annexed, Polk President.
- 1846 Congress declared war on Mexico.
- 1850 California admitted into the Union.
- 1854 The Kansas-Nebraska bill and the formation of Republican Party.
- 1857 The Dred Scott case and decision.

## Kentucky

- 1861 Kentucky adopted a policy of "watchful waiting" (mediating neutrality).
- 1862 Battles of Richmond and Perryville.
- 1866-'7 Kentucky showed disapproval of the nation's abolition by electing Democratic Congressmen.
- 1865-'95 Democrats in power in Kentucky.
- 1870 The Ku Klux Klan in Kentucky.
- 1873 Panic in Kentucky.
- 1873-'92 Prof. N. S. Shaler of Kentucky and Harvard at the head of the State Geological Survey.
- 1875-'6 Creation of the Agriculture, Horticulture and Statistics Bureau.
- 1875 James B. McCreary began his political career.
- 1883 J. P. Knott elected Governor.
- 1884 Col. Reuben T. Durrett organized the Filson Club.
- 1887 Gen. Simon B. Buckner became Governor.
- 1891 Kentucky's fourth Constitution was adopted.
- 1892 Centennial of Kentucky's statehood.
- 1895 W. O. Bradley became Kentucky's first Republican Governor.
- 1900 The Goebel tragedy.
- 1900 Tobacco and liquor corporations had become powerful.
- 1900-'15 Drift of population to the mines of the mountains.
- 1907 Another split between Beckham's and McCreary's followers, resulting in election of Republicans.
- 1907 Creation of two State Normal Schools.

## The Nation

- 1860 Secession of Southern States and beginning of war.
- 1863 Battles of Gettysburg and Vicksburg.
- 1865-'70 Reconstruction amendments to the Constitution.
- 1860-'85 Republicans in power in the nation.
- 1870 The Ku Klux Klan in other Southern States.
- 1873 Panic in the nation.
- 1871 Arbitration treaty with Great Britain. The Treaty of Washington.
- 1876 The Hayes-Tilden campaign.
- 1876 The Centennial of the nation.
- 1883 The Pendleton Civil Service Reform Act.
- 1884 Cleveland was elected President.
- 1887 The Centennial of the Constitution.
- 1890 The McKinley Tariff bill.
- 1892 Cleveland again President.
- 1897 The Dingley Tariff bill.
- 1898 War with Spain and the beginning of our imperialism.
- 1900 America had become a "billion dollar country."
- 1900-'15 Investigation into our system of government.
- 1909 The Payne-Aldrich Tariff bill and the beginning of the breach in the Republican party.
- 1908 Conservation of our natural resources begun.

Kentucky	The Nation
1911 McCreary again Governor, "night riders" in tobacco districts.	1912 Woodrow Wilson President.
1914 Mrs. Cora Wilson Stewart and her Moonlight Schools sprang into great prominence.	1913 The Underwood Tariff bill passed.
1915 "Night riders" and "possum hunters" very troublesome.	1915 The American nation faces the greatest crisis of a century.

## A CHRONOLOGY OF IMPORTANT EVENTS IN THE LATE ROMAN REPUBLIC.

Prepared by Prof. Grinstead

B. C.

- 133 Tribune of Tiberius Gracchus.
- 113-101 Invasion of Cimbri and Teutones.
- 91-89 Social War.
- 82-79 Dictatorship of Sulla.
- 80-72 Career of Sertorius in Spain.
- 73-71 Revolt of the Gladiators.
- 70 Consulship of Pompey. **Cicero's Oration Against Verres.**
- 67 Pompey commissioned against Pirates.
- 66 Pompey commissioned against Mithridates. **Cicero's Oration for the Manillian Law.**
- 66-62 Pompey's conquest of Asia Minor and Syria.
- 63 Cicero's consulship. Catiline's conspiracy. **Cicero's four Orations Against Catiline.**
- 62 **Cicero's Oration for Archias.**
- 60 First Triumvirate: Pompey, Caesar, Crassus.
- 60-58 Helvetians plan their migration.
- 59 Democrats control government. Caesar's consulship.
- 58 Cicero banished by democrats.
- 58 Caesar begins ten years' proconsulship in Gaul. Conquest of Helvetians. Expulsion of Germans from Alsace. **Events of B. G. I.**
- 57 Caesar conquers Belgians. **Events of B. G. II.**
- 57 Cicero recalled from exile.
- 56 **Events of B. G. III.**
- 55 Consulship of Pompey and Crassus.
- 55 Caesar's first invasions of Germany and Britain. **Events of B. G. IV.**



- 54 Caesar's second invasion of Britain. **Events of B. G. V.**
- 54 Crassus, proconsul in Syria, slain.
- 53 Caesar's second invasion of Germany. **Events of B. G. VI.**
- 52 Rebellion of Vercingetorix. **Events of B. G. VII.**
- 52 Murder of Publius Clodius in Italy. **Cicero's Oration for Milo.**
- 51 Cicero goes to Cilicia as proconsul.
- 50 Cicero returns from Cilicia.
- 49 Caesar returns from Gaul. Civil War begins. Caesar, assuming dictatorship, subdues Italy, Gaul and Spain.
- 48 Caesar defeats Pompey at Pharsalus. Cicero leaves Pompeian forces and returns to Italy. Pompey killed in Egypt.
- 47 Caesar completes conquest of the East, returns to Italy, and pardons Cicero for his part in Civil War.
- 46 Caesar subdues Africa and Spain and ends Civil War. **Cicero's Orations for Marcellus and Ligarius.**
- 45 Cicero engaged in writing philosophy and rhetoric.
- 44 Assassination of Caesar. Cicero assumes leadership of republicans, Antony of democrats. **Cicero's first four Philippics.**
- 43 **Cicero's last ten Philippics.** Defeat of Antony at Mutina. Second Triumvirate: Antony, Octavius, Lepidus. Death of Cicero.
- 42 Final defeat of the republicans at Philippi.
- 42-31 **Early writings of Vergil and Horace.** Beginning of Augustan Age.
- 31 Octavius defeats Antony at Actium. End of republic.

## ANCIENT HISTORY WILL HELP TEACH HISTORY AND CIVICS IN THE COUNTRY SCHOOL.

### CLASS EXHIBIT BY NELLIE SALE

- Advantages of a strong central government.
- Meaning of pure democratic government.
- Personal liberty.
- Civil and martial laws.
- Love of states for individual freedom.
- Origin of powers of appellate courts.
- Effects of slavery on government.
- Powers of United States President.
- Importance of a thrifty middle class.
- Terms used in history and civics that are derived from Greek or Latin.

# KENTUCKY COUNTY

A Class Report Prepared by Miss Cora Mastin

The operation of the Henderson Company had so much to do with the establishment of Kentucky County that we must review it briefly to get a connected story.

For two years the pioneer had been accustomed to taking up land and abandoning it at his pleasure, surveying when and where he chose, carving his name on a tree as the record of ownership, or to planting his corn and going his way, returning in his own good time to harvest it. Naturally he was unwilling to bow in quiet resignation to the overlordship of Henderson and his company.

Although these were discouraging facts for Henderson, he was not checked for a moment in his operations. He inspected the fort which Boone had erected and found that it was too small to accommodate the new party as well as the old. He also found that Boone had laid out most of the good land adjacent to the fort, into two-acre plots and assigned them to his party. Colonel Henderson, finding no room for his men, decided to erect a fort on the other side of the large lick, near the river bank, some three hundred yards distant. After marking off fifty-four lots about this new site, Henderson gave notice that they would be assigned, at a drawing to be held the evening of April the twenty-second.

Here arose the first serious dispute over land claims. Robert and Samuel McAfee, whom Henderson had met escaping from the district only a few days before, and had been persuaded to return with him, refused to draw. They stated that they preferred to return to their claims some fifty miles down the Kentucky river. Henderson at once informed them, in the presence of all attending, that such settlement should not entitle them to lands from the company. This was the first explicit statement of the Transylvania Company with reference to land grants. Henderson plainly announced that the days of squatter ownership within the territory, covered by the Watauga Purchase, were at an end.

A few days later, Captain John Floyd, leader of a company of thirty Virginia settlers, who had a camp on Dick's river, came to Henderson to learn upon what terms he and his followers might secure land from the Transylvania Company. Henderson knew that Floyd was a deputy surveyor of Fincastle County (a rival jurisdiction) and naturally he suspected him of being a spy sent to gather damaging evidence against the company. The gallant Floyd, therefore, received very little information in answer to his questions.

While Floyd was waiting in Boonesboro for a definite answer to his questions, two other noted pioneers, Colonel Thomas Slaughter and Captain James Harrod, appeared. They were intent upon similar business.

Henderson was afraid to determine in favor of the right and could not give a decree against them. To avoid a debate and to keep them from this disagreeable subject, he proposed an assemblage at Boonesboro, of delegates from all the stations to draw up a plan of legislation. This suggestion was agreed to and instructions for the elections were issued. This first legislative gathering of the district was called to order by Henderson who welcomed its members with a great deal of formality.

After a great deal of effort on the part of Henderson and his company to assure the people that the Transylvania Company was the real owner of the territory had been made, the meeting closed.

As the delegates returned to their respective stations, discussing what had been done at the meeting, and as they talked about Henderson's manner, the pioneers became alarmed. Men who had come out into the wilderness and, amid untold hardships and dangers, had selected estates for themselves, saw that, if Henderson and his company should carry out their program, the colony would not be under a free government, where all men are equal, but under a proprietary government designed for a few. The drift of population soon showed that discontent existed in the district. The number of guns in Boonesboro was steadily declining.

The pioneers were sure that Virginia was hostile to the plans of the company, by Lord Dunmore's proclamation. Governor Martin's denunciation of the Watauga treaty showed that North Carolina was unfriendly. The colonists were becoming more savage in their denunciations. The strongest and best of new settlers avoided Boonesboro. Although some acknowledged the authority of the company, many relied wholly on the titles of Virginia without regard to the claims of the proprietors, whom they denounced as impostors.

Affairs became so complicated for the company, the proprietor felt compelled to form definite measures concerning land claims. Colonel John Williams was appointed agent and general manager of the business interests of the company. The terms on which land could be held were very strict. Land adjoining salt springs, gold, silver, copper, lead or sulphur mines could not be granted. One half of all gold, silver, copper, lead and sulphur was reserved to the proprietors to protect them against accidental violations of the first. Grants along the river were to have twice as much depth as river frontage. People naturally resented these rules, and men like Harrod and Slaughter were driven to open hostility.

The Henderson Company recognizing that they could not succeed in this enterprise against so much opposition, without recognition of a higher power, made an effort to secure support of the Continental Congress. They prepared a memorial requesting "That Transylvania be added to the number of United Colonies." James Hogg, one of the proprietors, was appointed to carry this appeal to the Continental Congress and to ask to be seated as a delegate from Transylvania. He made a report of his interview with Samuel and John Adams, who,

he said, seemed delighted with the idea, but objected to taking under their protection a body of people who had acted in defiance of the King's proclamation. Then, after looking over the map and discovering that Transylvania comprised a part of the original Virginia chartered grant, they advised Hogg to consult the Virginia delegation on the subject.

Jefferson and Wythe also discovered that the purchase lay within their chartered rights and hinted that Virginia might claim the whole. Although Jefferson would not consent that they be acknowledged by Congress until it had the approval of his constituents in convention, yet he said his advice to Virginia would be to make no use of her charter rights except to prevent an oppressive government from being established within her charter limits. We have learned from the deposition of Patrick Henry, taken several years later, that the Congress rejected the memorial of the Transylvania Company because Henry used his great talent to prevent its recognition. Several efforts were made to bribe Henry, but without success.

A petition addressed "To the Honorable the Convention of Virginia" was drawn up and signed by eighty-four of the discontented of the pioneers. They had entered Williams' land office and were convinced of the insecurity of their land titles granted by that office. They told in the petition how they had been lured into this region and the danger of being turned out of possession of their lands. They asked to be taken under the protection of the convention of Virginia, of which they believed they were a part, and to protect them from the impositions of the proprietors. The document did not reach the Virginia convention until the month of March, 1776, and before definite action had been taken, a new phase of the question arose. Indians of the Northwest had heard of the war between England and her American colonies, and encouraged by the British agents, they began the barbarous warfare which had been so disastrous before the victory at Point Pleasant. It was necessary that measures be taken at once to protect the whites. Before this could be done the question of jurisdiction would have to be settled. If the claim of the Transylvania Company was to stand, the settlers must look out for their own safety; if taken under the protection of the convention of the colony, they might expect military aid from her.

At this critical time, George Rogers Clark, the future conqueror of the Northwest Territory, took up his permanent abode in Kentucky. Clark had visited Kentucky on a brief tour of inspection during the previous autumn, 1775, and had been placed in command of the irregular militia of the settlements. He returned to Virginia anxious to establish an extensive system of public defense in Kentucky. He was firm in the conviction that the claims of the Henderson Company ought to be disallowed, and proved to be the most dangerous opponent that Henderson and Company had in the province. Shortly after Clark arrived he proposed that a regular representative assembly should be held at Harrodsburg in order to bring about a



more certain connection with Virginia, and the more definitely to repudiate the authority of the Transylvania Company. Agents, he said, should be appointed to urge once more the right of the region to be taken under the protection of Virginia. If this request should again be unheeded they should employ the lands of the country as a fund to obtain settlers and establish an independent state.

The proposed assembly met at Harrodsburg on the 6th of June. Clark was not present at the beginning of the session, but found when he arrived that the most important question had been acted upon and that he and Gabriel John Jones had been elected as delegates to represent the settlers in the Virginia Assembly. Clark knew that such election would not entitle them to seats, but agreed to visit Williamsburg and to present the cause of the pioneers. After a long, painful journey, Clark and Jones, with the memorial, reached Charlottesville only to learn that the Assembly had adjourned. Jones went to visit the settlements on the Holston. So intent upon his mission was Clark, that he pushed on to Hanover County, where he secured an interview with Patrick Henry, then governor of Virginia.

After hearing Clark's report of the troubles of the frontier colony and perhaps enjoying his denunciations of the Transylvania Company, Governor Henry introduced him to the executive council of the State. Clark at once requested of them five hundred pounds of powder for frontier defense. He was determined to accomplish the object of his mission in any possible manner. He knew that if he could induce the authorities to provide for the defense of the frontier settlements they would soon announce their property rights in them and the plans of Henderson and his colleagues would be destroyed. These consequences were doubtless foreseen by the council, and it declared that it had no authority to grant such a request. Clark was insistent and urged his case so effectively that the council assumed the responsibility of lending him five hundred pounds of powder, making him personally responsible for its value in case the burgesses did not uphold their assumption of authority. They presented him with an order to the keeper of the public magazine calling for the powder desired.

Clark did not want the loan of the powder to be made to himself personally, as it would not then be an assumption by Virginia of the responsibility of defending the western frontier. He returned the order with a curt note, declaring his intention of repairing to Kentucky at once and exerting the influence of the country to the formation of an independent State. This threat proved successful. The council recalled Clark to their presence and, on August 23, 1776, gave him another order calling for five hundred pounds of gunpowder. This was to be sent to Pittsburg by Virginia officials and kept safely until delivered to George Rogers Clark or his order for the use of said inhabitants of Kentucky. Clark was satisfied with this, for he felt that by it Virginia was admitting her obligations to defend the pioneers of the west and a declaration of her rights would soon



follow. He wrote to his friends in Kentucky asking them to receive the powder at Pittsburg and convey it to Kentucky station; he himself waited for the opening of the autumn session of the Virginia Assembly to procure a more explicit verdict against the claims of Henderson's Company.

At the appointed time, Clark, accompanied by his colleague, Gabriel John Jones, went to Williamsburg and presented his petition to the Assembly. In spite of the exertions of Henderson and Campbell in behalf of the Transylvania Company, the Virginia Assembly, December 7, 1776, passed an act dividing Fincastle County into three sections, to be known as Kentucky County, Washington County, and Montgomery County, Virginia. The County of Kentucky contained almost the same territory as the present State of Kentucky. It was recognized as a political unit of the Commonwealth of Virginia, and thus was entitled to representation.

The fate of the Transylvania Company was decided by this statute, for there could not be two sovereign proprietors of the soil of Kentucky County. This was the last attempt to establish a proprietary government upon the free soil of the United States. As George Rogers Clark was the founder of Kentucky's first political organization, he became the political father of the Commonwealth, as Daniel Boone had been father of her colonization.

# PARALLELS BETWEEN THE PELOPONNESIAN AND THE PRESENT EUROPEAN WARS

Class Exhibit by Forest Ward

## PELOPONNESIAN

- I. Peloponnesians led by Aristocratic Sparta.
- II. Allies led by Democratic Athens.
- III. Military Strength.
  - A. Athens Supreme on the Sea.
  - B. Sparta Leading Land Power.
- IV. Leading Military Problem—Control of the Hellespont.
- V. Peloponnesians Brought Persia into the War.
- VI. Relation to Civilization.
  - A. Culmination of a very Brilliant Age.
  - B. Combatants Sank into a State of Barbarism.
    1. Murder of Captives.
    2. Enslaving Captives.
  - C. Destruction of Historic Cities.
    1. Plataea.
    2. Mytilene.
- VII. Leading Results—A Very High Civilization Sank to a Much Lower One.

## EUROPEAN

- I. Triple Alliance led by Aristocratic Germany.
- II. Entente Led by England.
- III. Military Strength.
  - A. England Supreme on the Sea.
  - B. Germany the Leading Land Power.
- IV. Leading Military Problem—Control of the Bosphorus and Strait of Dover.
- V. Germany Brought Turkey Into the War.
- VI. Relation to Civilization.
  - A. Culmination of the Most Brilliant Age in History.
  - B. Combatants Sink Into Barbarism.
    1. Murder of Non-combatants.
    2. Russians and Germans Force Captives to Work.
  - C. Destruction of Historic Cities.
    1. Louvain.
    2. Rheims.
- VII. Leading Results—?

# WHAT IS A DEMOCRACY?

Class Exhibit by Mary Biehn

SIZE—Small enough for all the people to act together.

ORIGIN—The Greek City-State.

ORGANIZATION—The citizens make laws directly.

VALUE—The Greek state produced the most and the most brilliant geniuses of the world.

EXAMPLES TODAY—There are none. Oregon and Arizona approach it.

# THE MILITARY HISTORY OF THE SEINE-RHINE REGION

A Class Report Suggested by the Present War by L. D. Nickell

- I. Battle of the Sambre.
  - A. 57 B. C.
  - B. Caesar vs. the Nervii.
  - C. Result: Romans possess all Belgian territory.
- II. Battle of Chalons.
  - A. 451 A. D.
  - B. Goths and Romans vs. Huns.
  - C. Huns expelled from Western Europe.
- III. Battle of Soissons.
  - A. 486 A. D.
  - B. Franks vs. Romans.
  - C. Beginning of Frankish Monarchy.
- IV. Sack of Paris.
  - A. 914 A. D. (?)
  - B. Northmen vs. French King.
  - C. Result: Formation of Duchy of Normandy.
- V. Battle of Crecy.
  - A. 1346 A. D.
  - B. Edward III of England, with 40,000 men against over 100,000 French.
  - C. Complete victory for English bowmen.
- VI. Battle of Agincourt.
  - A. 1415 A. D.
  - B. Henry V of England, with 15,000 men against 60,000 French.
  - C. Complete victory for English bowmen.
- VII. Battle of Oudenarde.
  - A. 1708 A. D.
  - B. Prince Eugene vs. French.
  - C. Complete victory for allies.
- VIII. Battles about Metz.
  - A. Captured 1552 by Henry II to aid Protestant German princes.
  - B. Annexed by French in 1648.
  - C. Taken by Germans in 1871.
- IX. Valmy.
  - A. 1792.
  - B. Emigres and monarchist allies vs. French Republicans.
  - C. Victory for Revolutionary forces.
- X. Battle of Waterloo.
  - A. 1815.
  - B. Allies vs. French.
  - C. Overthrow of Napoleon.

- XI. Battle of Sedan.
  - A. 1870.
  - B. Prussians vs. Napoleon III.
  - C. Led to downfall of French Empire and organization of German Empire.
- XII. Battle of the Marne.
  - A. 1914.
  - B. Germans vs. French.
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Prepared by Prof. Grinstead

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## THE INFLUENCE OF RACIAL DIVISION ON THE HISTORY OF EUROPEAN NATIONS

A Paper Read by Prof. Keith to the Faculty Club

The problem of the origin of races is well nigh impossible of solution, because, in the thousands of years that elapsed before the historical period began, so many influences conspired to differentiate the original stock. Associated in groups, the early men of the paleolithic and neolithic ages met and conquered or intermarried and amalgamated with the principal racial groups. Climatic and geographic conditions are great factors in differentiation, and environment of various kinds enters in so that eventually certain characteristics emerged as stable physical peculiarities of large populations; and today we distinguish a yellow-skinned, straight-haired race, a black-skinned, woolly-haired race, and a fair-skinned, curly-haired race.

There are an infinite variety of theories, and our only resort in the absence of proof is to accept one theory that is more or less generally accepted. Such a theory seems to be that of Chapin in his "Social Evolution." Chapin issues a word of warning that the word race is popularly associated with color of skin and that this is



unsatisfactory. Shape of head, hair form and facial angle must be considered; and upon these bases he agrees with Professor Giddings that the white race, since it is most variable, is the earliest of all. Together also Chapin and Giddings state that traces of earliest man and the zone of richest remains of prehistoric man is from Polynesia to the Thames; and, therefore, they maintain that the zone of distribution of the original undifferentiated Polynesian-European group about the fourth millennium B. C., was a broad zone from Polynesia in the Pacific, northwestward through Southwest Asia and North Africa and through Europe via the Danube valley into England via the valley of the Thames. From this as an axis it spread over Europe and the rest of the world. The characteristics of this group were: Mesocephalic (medium-headed), orthognathic (perpendicular skull), straight or wavy haired, fair or brown skin. Radiating from this original undifferentiated group and falling under the influence of natural barriers and climatic conditions—the light ray is always a potent factor in the coloration of plants and animals—brought gradual differentiation, into the round-headed, black-haired people of the North, then the intermediates, and then the long-headed, curly-haired people of the South. The brunette of Southern Europe becomes the brown of Polynesia; in the same way, as they wander away from home, the prevailing white type of Europe becomes the pronounced blond of the Baltic regions, the yellow toward Northern Asia and the black to the South of Europe and in North Africa.

The European part of the Polynesian-European group has two main divisions. One was long-headed and dark-complexioned; this division was called the Eur-African group. The other was round-headed, light-complexioned and was called the Eur-Asian group. The geographic terms give a definite idea of their location. Each of these two groups was divided into two races. The Eur-African race consisted of first the Baltic (or Teutonic) race, whose characteristics were: light blond type, very light hair, and blue eyes, long headed and face, tall stature and aquiline nose, and whose area of distribution was the section of northwest Europe near the Baltic, the general area inhabited by the later Teutons; secondly, the Mediterranean race, whose characteristics were: brunette type, dark brown or black hair, dark eyes, head and face long, medium and slender stature and rather broad nose, and whose area of distribution was in Southern Europe south of the Pyrenees, along the southern coast of France, and in Italy, including Sicily and Sardinia. The Eur-Asian group was composed of, first, the Alpine race, characterized by dark complexion, chestnut hair with hazel gray eyes, round head and broad face, medium, stocky stature and variable but rather broad heavy nose. It was thus a type intermediate between the Baltic and the Mediterranean types and its peculiarities appear most frequently when the type is found in greatest purity, isolated in a mountain area. This ancient Alpine race may have been almost exterminated and the remnants driven into the

highlands by the energetic Baltic race. Their area of distribution was central France and the southern Alpine highlands. The second division of the Eur-Asian group was the Danubian race, characterized by light complexion, blond, often red-haired, blue-eyed, round head and relatively broad face, of tall heavy build. This race has played a most important part in history, and it has been variously called the Acheans, the Hallenic Greeks, and the Belgae. Their area of distribution was the north Alpine Highlands and the entire Danube valley and Asia immediately east of the Urals. It is probable that a round-headed white stock working westward from the Caspian regions, crossing with the Baltic race north of the Alps produced the Danubian race, and crossing with the Mediterranean race south of the Alps produced the Alpine race.

The earlier neanderthal group of men were distributed over Europe, north Africa, and west Asia, wandering far to the north into the Baltic regions, and north Russia and Siberia where they became quite blond. As the ice moved down from the north the white race deployed along the ice front was driven southward into India, East Asia, etc., blending with the Mongolian race. The glacial epochs lasted for thousands of years. As the ice sheet melted back these men passed north to the Baltic. These Eur-Africans intermarried with the later blond Baltic type, which, prolific, sent out waves of migration. The Caspian people had a similar history. The Baltic race eventually moved south and southeast and the Caspian race south and southwest, so that European civilization has spread to the remotest islands of the Pacific and has determined the culture of great commercial empires, and it seems thus to be established that modern civilization radiated from the Baltic country.

Whatever the history or lack of history, during the intervening millenniums, it is known that the great racial differentiations by the seventh century B. C., are Teutons in the North, Celts in the West, Graeco-Romans in the south and the Slavs in the east. Also in the east the Scythians (simply Russians) are distinct by the sixth century B. C. At the time that Marius in the second century B. C. was executing his marvelous destruction of the Teutons and Cimbri—the vanguard of later barbarian invasions—Livy, Caesar and other authors tell us that the Rhine and the Danube were becoming the boundaries of the Teutons. By the first, second and third centuries A. D., the recognized boundaries were: Practically all west of the Rhine Celtic in blood and Latin in speech; the Teutons occupied north of the Rhine and east to the mouth of the Danube; the Danube valley and all south to Greece was Illyrian, a branch of the primitive Danubian stock. Poland was probably unoccupied territory between the Teutons and the Slavs according to Caesar, who says also that Belgium was of very mixed blood; but I shall try to show you later that Caesar was wrong.

Now the Teutonic tribes, as Tacitus shows us, had already begun to press upon the subsistence of the country, much as Germany is

doing today, and had begun to radiate from the Baltic regions, south, southeast and southwest. We find Ostrogoths moved down and located at the mouth of the Dnieper and Visigoths at the mouth of the Danube. This prepares the ground for a migration which brings in alien stock, namely the Huns, who were the Turanian branch of the Mongol stock from eastern Asia, who moved westward north of the Caspian and Black Seas and hit the Ostrogoths and the Visigoths on the lower Danube, driving them westward, terror-stricken, and precipitating the big invasion of 376 of the Goths against the Roman Empire, the Huns themselves pushing westward the next century to northern Gaul, where at the decisive battle of Chalons, 451, they were thrown back into Hungary.

The Gothic invasion caused by the Huns smashed the boundaries of the Empire, and you get the great Teutonic invasion of the fourth and fifth centuries—the Ostrogoths into Italy and Asia Minor, the Visigoths south of the Danube and finally into Spain, the Vandals into Gaul and Spain and, fleeing before the Visigoths, into north Africa, the Franks into northern Gaul, the Burgundians into Burgundy, the Lombards into Italy, and the Anglo-Saxons into England. The broad result is that few Teutonic traces were left in the southeast of Europe, but many were left in all the west of Europe. They left their traces; but a leading characteristic of them was the ease of their being absorbed; and so Latin or Romano-Gallic is the prevailing blood to this day. About the same time as the Huns, the Fins, another Tartar stock, pushed northward toward the Baltic and these two, together with the later Turks, who moved into Europe south of the Caspian, are the three great Mongol stocks in Europe.

Perhaps we may stop here to hint at how much racial division in any country may influence its history. As for England, the Celtic population was pushed westward and northward by waves of immigration of Anglo-Saxons, Danes and Normans; and the rising of Llewellyn against Edward I was not man against man, but blood against blood. The centuries of fighting from their mountain fastnesses and their disloyalty to England until 1485, when Henry Tudor, one of their own princes, came to the throne is the same story as is the struggle of southern Scotland against northern England. The superstitions of Wales today are Celtic superstitions. The tall, erect, light-complexioned population of the eastern part of old Mercia or the Danelaw today are so because they are a different branch of the same race as other Englishmen. Look at the Netherlands and Belgium for a moment and ask why they are not a strong united kingdom. In spite of Caesar, I am afraid that the Belgian population was mainly Gallic Walloons or Celtic in race, while the population of the Netherlands was Fleming or Teutonic. When the Reformation came on, nothing was more natural than what actually happened, Belgium remaining Catholic and the Netherlands going Protestant. Racial division is usually enough to divide allegiance. This, plus religious division, was certainly enough to prevent all the nice attempts at union during their

revolt against Philip II; and again when the Congress of Vienna, disregarding race, joined them together, the combined force of race and religion broke the bonds in fifteen years.

A disregard of race is Austria's trouble today as it is of the Balkans. Hordes of Asiatic Mongols came, bringing alien stock, like the Huns already spoken of, the Bulgarians in the seventh century, the Magyars in the tenth and the Ottoman Turks under Mohammad II in the fourteenth. The nucleus of the Austro-Hungarian Empire is Austria proper. The southern side of the Rhine (Austria) was inhabited before the opening of the Christian era by a Celtic tribe, the Taurisci; while north of the Danube (Bohemia, etc.) was occupied by the Teutonic tribes, the Marcomanni and the Quadi. About 590 A. D., the Slovenes, a Slavonic people, entered Austrian territory on both sides the Danube; and during the ninth century there came in the Moravians and then the Magyars in the tenth. Austria proper dates its beginning about 800, a small defense on the south side of the Danube, east of the river Enns or Inn against the Slavs. Otto the Great, 936, was the real founder of Austria, in his defeat of the Magyars, saving Bavaria. In 1487 Austria was conquered by Matthias Corvines, king of Hungary; but it was reconquered by Emperor Maximilian I, 1490. The pressure of the Turks from the southeast helped unity. In the battle of Mohacs, 1526, most of Hungary fell before the Turks under Suleiman the Magnificent, but this was given up at the treaty of Carlowitz, 1699. The end of the Holy Roman Empire, 1806, was the beginning of what Woodrow Wilson's State terms the dual monarchy of Austria-Hungary.

Looking once more to the Mongol invasion of the late middle ages before which Constantinople finally fell, it pressed upon the Slavs who pushed westward. The Serbo-Croats, a differentiation of original Slavs, were driven clear to the Adriatic Sea; the Czechs were driven westward into Bohemia; and the Poles were also driven westward. The only populations that were not seriously displaced by this invasion were the Latin population planted in Transylvania, Roumania and Bessarabia during the first and second centuries and the original Greek population, not seriously disturbed, continued to occupy the Achaean peninsula.

This gives us a very incompatible mixture of races, tongues, religions and cultures in both Austria-Hungary and the Balkans. In Austria we get 9,950,000 Germans who occupy the district around Vienna and in Austria proper and fringe western Bohemia; 6,436,000 Czechs who are predominant in Bohemia; 4,968,000 Poles located in western Galicia; 3,510,000 Ruthenians, close associates of the Poles, who occupy east Galicia, and Bukovina (northeast Hungary); 1,300,000 Slovenes, a Slav people who live in Carniola and in Southern Carinthia, Southern Styria and north Istria; 783,000 Servians in Croatia, Dalmatia and southern Carniola; 768,000 Italians in the South of Tyrol and in western Carniola around Trieste; 275,000 Roumanians in east Bukovina; and 11,000 Magyars in east Austria.



The races of Hungary are little different: 10,051,000 Magyars living in Hungary constitute the prevailing race; 2,949,000 Roumanians dwell in Transylvania; 2,037,000 Germans form separate scattered colonies; 2,500,000 Slovaks people the north countries of Hungary and lower Austria and Moravia; 1,833,000 Croats east of the head of the Adriatic and joining the Servians to the north; 1,106,000 Servians in Slavonia (between the Drave and Save); and 273,000 Ruthenians south of the Carpathians; besides 2,000,000 Serbs in Bosnia and Herzegovina. Reflecting upon this polyglot conglomeration for a moment, it is no wonder that Joseph II (1765-1790) meditating upon the failure of his well-meant and much-needed reforms said he wanted engraved on his tombstone, "Here lies a man who never succeeded in anything he attempted." This epitaph would befit a far greater man than Joseph II, if only you let him spend his life on the Austrian throne. Dissensions among its peoples make Austria's losses in this war serious. The army has been the force that has held the Slavonic races in check, and the army has met two serious reverses; one a loss of 40,000 prisoners to the Servians, the other a defeat by the Russians in Galicia losing 70,000. A thoroughly united nation can stand a defeat, but a disjointed nation with a tyrannical government maintained by setting race against race and class against class is liable to experience difficulty.

One fact is strikingly noticeable: Austria has about 30,000,000 inhabitants; of these only about one-third are Germans; Hungary has about 22,000,000 inhabitants; of these about 10,000,000 are Magyars. A minority of the people, then, rules in each nation, the Germans in Austria, the Magyars in Hungary. The Italians and the Roumanians who together number 4,000,000 are the only non-Slavonic people, while 30,000,000 are Slavs. It is difficult for the Slavs to unite because they all speak different languages, and because the government prevents it by keeping the Slavs, Roumanians and Italians in awe, and by keeping all races ignorant. More than half of the Slavs are uneducated. The Magyars and Slavs have never willingly recognized a government which ignores their national rights and implies superiority of the Germans. The Bohemians also want their independence, since Hungary got hers. Hungary, nearly independent, is becoming the bitter enemy of Austria.

The complication in the Balkan States is about this: Greece and the Aegean Islands, middle and southern Albania, southern Macedonia and the Ionian Coast is occupied by Greek Christians; the Servian Christians are the main race in Servia, north Albania, a little of north Macedonia and Montenegro; Turkish Mohammedans inhabit south of a line drawn from Midia on the Black Sea to Enos on the Aegean, and they have scattered populations throughout the Balkans and in Bosnia; Bulgaria contains mainly Mongols but a mixture also of Serbs, Turks and Greeks. She is the disturbing element in the Balkans, because she is ambitious and she has a good sea front and a strong army; Roumania is Latin in population—its backbone population is



the Vlachs, a peasant class and Christian in religion. Its population numbers 5,400,000 and it has about 500,000 in north Greece and European Turkey.

Now looking at Austria-Hungary, the Poles, and the Balkans as a whole, there are these main troubles: first, there is a group of Slavonic races who want change from what they have; there are three big Mongol kingdoms, Hungary, Bulgaria and European Turkey that have no connection and no chance to get connection; there are three big Latin sections, Roumania, Bessarabia (belongs to Russia), and Transylvania, which are all Latin in population but have no political connection; about a third of the population that Turkey lost in the provinces in the Balkan war is Mohammedan Turks. Albania could sensibly be destroyed and its northern Serbs added to Serbia, its southern Greeks given to Greece, except that it has about 1,000,000 people in the center mixed in blood, Illyrian in speech and Mohammedan in religion.

Were I a leading diplomat in the International Congress of London 1917, looking at the thing from a purely racial standpoint, I should suggest that the Turks from Constantinople be dislodged from Europe at the point of the bayonet, her territory going to Bulgaria, Bulgaria to be put under protection of the Powers, if she would behave herself; Greece should be given Southern Albania, all of Macedonia that is Greek in blood, the Ionian coast and the Aegean Islands; the population of central Albania given their transportation to some congenial place; Roumania, Bessarabia and Transylvania should be joined into a strong Latin polity. Austria-Hungary should be obliterated, the Italian part of the Tyrol going to Italy, the German part added to Austria proper and the German part of western Bohemia and given to Germany, Germany to suffer a corresponding or greater loss in another section, perhaps Luxemburg to Belgium. There should also be created a new Serb state of Serbia, North Albania, Montenegro, North Macedonia, Croatia, Bosnia and Herzegovina. Mongol Hungary, wedging between the two Slav groups, must stand alone. Then there is blood-bond material enough to build up another vast Slavonic state including Moravia, Galicia, Bohemia, and the entire race of Poles, with a legal universal language—always a powerful influence for unity—Polish would probably be preferable.

Incidentally, though this is not a part of my story, I would suggest a democratic form of government set up by a majority of the people in all these new creations.

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## STATE NORMAL SCHOOL

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- J. G. CRABBE, President.

## INTRODUCTION

One of the most significant facts in the educational world today is the demand that agriculture be taught in the public schools. I do not believe in that philosophy of education which would establish separate schools for the teaching of cultural and vocational subjects. I believe that farmer boys and girls should be given the opportunity to study agriculture in the common schools and the high schools alongside of, and in connection with, their other studies. I believe that the greatest obstacle in the way of introducing agriculture into our country schools is the fact that the teachers, themselves, do not know agriculture. I believe that a knowledge of the fundamental principles of the science of agriculture and a practical acquaintance with the art of agriculture are necessary in the training of country school teachers. On the other hand, I do not believe a country teacher can be thoroughly efficient without such knowledge. I believe the State Normal Schools are performing a great service to the State in offering the teachers courses in this subject, and in urging them to take them.

T. J. COATES,  
State Supervisor of Rural Schools.

## OPPORTUNITIES IN AGRICULTURE

The interest in agricultural lines of work is growing with wonderful rapidity. There has never been a time when the call for men trained in both the science and the art of agriculture was so insistent as now. Positions become available faster than men can be trained to fill them. The opportunities for good men properly trained are steadily increasing in spite of the fact that the agricultural colleges are turning out each year a larger number of graduates. In fact if all the college matriculates elected the agricultural course, there would still be a dearth of men for the work that needs to be done. The problem of transforming the agricultural industry into modern ways is a stupendous one. It requires the best thought, the greatest energy, and the truest courage that the young men of the farm and the town can bring to this high calling. As a profession agriculture is just coming into its own, it is teeming with opportunity for the man who knows and wills. From every corner of the nation and from other lands comes the persistent call for men who know agriculture "from the ground up." The field is as wide as the world; it is particularly rich and inviting in America. Opportunities actually protrude, one pumps into them, and excellent are the chances for rapid and substantial advancement.

### FARMING

The farm is the fundamental thing in agriculture. The farm offers great possibilities for the application of a scientific training in agriculture, and the financial returns from intelligently directed farming operations are now much greater than can be secured in any other line of agricultural effort. It is well agreed now that the man who desires to spend his life on the farm should have the same opportunity for training in his profession that the doctor, the lawyer, the preacher, or the teacher receives. The standard of production must be raised. This is no more important, however, than the need of putting better business methods into farm practices and of completely making over the social fabric of the country so that the farm may be the best place in the world in which to live and enjoy life. A sensible training in agriculture makes this possible. This has been proven by a large number of the graduates of agricultural colleges who have gone direct to the farm and taken up general and special lines of farming with uniform success.

### FARM SUPERINTENDENTS AND FARM MANAGERS

There is a strong demand for capable men to take charge of farm enterprises, superintend special agricultural undertakings, and assume control of estates. These forms of work offer opportunity for a young man to accumulate both capital and experience that will be of great value to him when he is able to operate a farm for himself. This is one of the early stepping stones to farm ownership.



## TEACHING OF AGRICULTURE

**In Colleges.**—With the world-wide awakening to the need of better farm methods, has come a correspondingly rapid growth and development of agricultural colleges everywhere. This has opened many teaching positions to those who know agriculture and know how to teach it to college students. At the same time college teachers are being steadily drawn into other fields, leaving vacancies to be filled by men who have more recently come up from the student ranks. One of the serious problems confronting our agricultural colleges is to find men equipped by training and natural inclination to fill the teaching positions which are always waiting. More than 4,000 teachers are employed by the agricultural colleges of the United States.

**In Normal Schools.**—Along with the agricultural quickening and incident to the movement toward the concrete and the practical in natural science there has arisen a demand, which bids fair to be never satisfied, for men and women of the true teacher type, born leaders, out of a rural environment, with the right technical education plus professional training, to teach teachers agriculture to teach to the children, who may in turn teach their elders who refuse to be taught by other than home grown. Need and space forbid listing the many and cogent reasons why agricultural teaching in the Normal is important and difficult, requiring as it does an accurate and extensive knowledge of principles and facts, wide adaptation, liberal interpretation, and consummate skill as an instructor. More than half the states in the Union already require by legislative enactment the teaching of the elements of agriculture in the public schools. Other states are falling in line as fast as the legislators learn and heed the needs of their constituents.

**In Secondary Schools.**—Agriculture is taking its place with the other sciences and mathematics, history, and literature in the high school all over America. Some states have established a system of agricultural high schools. Louisiana is an example. She has more than forty agricultural high schools receiving state aid on condition that they maintain a department of agriculture in charge of a person with proper agricultural training. Already there are several thousand secondary schools giving courses in agriculture. In the interest of efficiency, advanced training will be necessary and required for those who hold these places.

## EXTENSION WORK

One of the biggest problems of the day is how to get the large fund of information that has accumulated in recent years into the hands of the farmers and others who need it for immediate use. Farmers, housekeepers, in fact all people interested in all lines of human endeavor are demanding instruction and help. Many need who do not yet know how to call. It becomes the duty of college, nor-

mal school, and high school to offer this help where it is needed. It will take a good sized army of men and women to meet the needs of extension service during the next decade. This army must be trained; proper training is the only guaranty against failure. Those intrusted with this work must know the "how," also the "why."

## INDUSTRIAL AND COMMERCIAL WORK

The railroads and transportation companies employ an increasingly large number of trained agricultural men each year. The fertilizer companies and grain exchanges are looking to the agricultural schools to supply them with men who know the whole subject of fertility maintenance and building. Packers, milling concerns, manufacturers of farm machinery, tractors, and motors, real estate agencies, and reclamation companies are demanding men trained in agriculture. Rural credits will open another field for men who are trained to see accurately the potential worth of various agricultural enterprises.

## COUNTY WORK

There are 120 counties in Kentucky. Forty of these already have men on the job helping make agriculture better and more profitable. In this state these men are called "county agents," in Missouri they are called "county farm advisers." Whatever the title, many other counties in this state and great numbers in other states are taking up this line of extension work as fast as men can be secured who are qualified to do the work. There is a dearth of men fit to fill the places now ready. From all indications of past and present, there will be a steady and growing demand for properly trained men to do this form of work.

## UNITED STATES DEPARTMENT OF AGRICULTURE

The United States Department of Agriculture bears about the same relation to agriculture in the nation that our State University does to farming and farm interests in the State. The national department of agriculture has in its employ about 14,000 persons. Under its direction is the extensive meat inspection service, food inspection, and other forms of inspection; the weather bureau, with substations in every state; vast publication service; the administration of government reserves and forests, reclamation projects; an extension service covering every phase of rural activity. All these positions demand trained men and women, many of them require graduates of agricultural colleges.

## AGRICULTURAL EXPERIMENT STATION WORK

Of vast significance and importance even greater than the teaching of scientific agriculture in colleges and secondary schools is the investigation of the various problems of rural life conducted by the various agricultural experiment stations. These problems involve the improvement of standard farm crops and the breeding and development of new varieties of grain and forage plants; the control of plant and animal disease; chemical and plat tests of fertilizers and soils; the economical feeding of live stock for meat, milk and labor; the control of insect pests; the applications of modern bacteriology on the farm; the working out and testing out of efficient systems of management for all departments of the farm. The field for agricultural research is unlimited and the demand for such investigations increases with the years.

## COUNTRY MINISTERS' WORK

It is coming to be generally recognized that the country minister of the future will have a much closer relationship to the life of the community which he serves than he has had in the past. If he is going to run a rural institution and do it successfully he must be a part of the local plant, he must be on the ground seven days a week. The minister who lives in the country and tills the soil as do his people, who takes a leading part in the agricultural life of the community, will be the one who renders the most efficient service, both to men's bodies and to their souls. Agricultural training will increase the efficiency of country ministers, make their work easier, their success surer, their reward greater.

Other fields open to those having agricultural training are, Agricultural Journalism, Landscape Gardening, Forestry, Creamery Operating, Dairy Farming, Fruit Growing, Live Stock Farming, and many other special lines.

IT PAYS to be PREPARED.

## AGRICULTURAL OPPORTUNITIES FOR WOMEN

Now that woman is forging her way bravely and successfully into fields of vocation traditionally man's own province the question comes up, "What is there along the lines of Agriculture that is suited and specially inviting to woman?"

Below are listed a few of the phases of the work which women are doing and can do well: Teaching of Agriculture in high schools; supervisors of school gardens, and of home project work; county, city or state agents of Tomato Clubs; Poultry Clubs, etc.; extension workers with railroads, boards of education, colleges, etc.; special workers and experts in experiment stations, and the U. S. Department of Agri-

culture; public or institutional experts in bacteriology, entomology and pathology, or analytic chemistry; florist and professional gardener; managers and owners of dairies, poultry plants, live stock farms, commercial orchards, apiaries.

Best of all, by taking a course in Agriculture a woman is fitted with the knowledge, the skill and the attitude to be a sympathetic helper, a true MATE, for the man whose activities lie along agricultural or rural lines, even him who answers the call of the land to abide on it.

## OPPORTUNITIES IN AGRICULTURE FOR COLLEGE TRAINED WOMEN

(By Prof. John L. Stone, Cornell University. This article used by permission of the Cornell Countryman. It will appear in the September issue of that publication.)

Many women, either from choice or from necessity, are interested in opportunities for independent careers. Many lines of employment not formerly open to women are now followed by them with success. A considerable number of women are taking courses of study in our agricultural colleges, and the question naturally arises, With what expectations may these women look toward agriculture for satisfactory careers, and what lines of agriculture afford the best opportunities for women in the capacities of proprietors or managers?

To know the number of women now engaged in various lines of agriculture and the proportion they bear to the total number of persons so engaged will shed considerable light on the subject, and fortunately the report of the last United States Census gives the basis for computing such proportion.

### WOMEN IN AGRICULTURE IN THE UNITED STATES

(Computed from the 13th Census.)

		Women to Total		
Total number of women in agriculture, forestry and animal husbandry (all capacities) .....	1,807,501	1	:	7
Farmers .....	257,706	1	:	23
Dairy farmers .....	2,576	1	:	24
Florists .....	1,501	1	:	9
Fruit and nursery .....	2,355	1	:	20
Gardeners .....	4,413	1	:	18
Landscape gardeners .....	15	1	:	253
Stock raisers .....	1,674	1	:	31
Apiarists .....	125	1	:	17
Poultry raisers and poultry yard laborers.....	3,607	1	:	4
Total, exclusive of laborers.....	273,522			



It is interesting to note in the table the very considerable number of women in the United States engaged in agriculture, exclusive of laborers, 273,522. It is safe to say that those lines of agriculture in which women are relatively most numerous are the lines that are best adapted to women. It is probable, however, that women are so few in landscape gardening because it is a comparatively new profession, and it should be noted that poultry yard laborers are included with poultry raisers.

It is manifest that poultry industry and floriculture attract women in largest proportion, that apiculture and gardening stand next in order, and that fruit-growing is relatively more attractive than general farming and dairying. The large numbers engaged in general farming (over 257,000) in comparison with the small number engaged in all lines of special farming (16,266) only reflects the general situation, that the vast preponderance of all farmers must always be engaged in general or mixed farming.

Farming differs from many lines of business in that it may be followed by persons of very different degrees of ability and skill with some degree of success. The profits are rarely large under the best of management, but the indifferent or poor manager is not so quickly forced out of business as in many other lines of work. Much of the work done on farms is of a character not to be adapted to woman's physical strength; therefore women will evidently be under the necessity of hiring a large proportion of the heavy work done by men. Warren's investigations show that "The greatest of all cost factors on the farm is labor," and "The question of the proper direction of farm labor is evidently the most important problem that the farmer has to meet."

As a rule, though it is not always the case, women find more difficulty in managing farm labor than do men. The average hired man does not like to take orders from a woman. It is evident, therefore, that a woman undertaking to manage a farm will be laboring under a considerable handicap. To attain a given degree of success she must possess a considerably higher order of ability than a man who secures the same success.

That some women make a satisfactory success in managing farms is well understood. In the Agricultural Survey of four townships in Tompkins County, thirty-two farms were found that were operated by women. The most successful of these women made a labor income of \$920, while the average labor income of all farms operated by owners in the district surveyed was \$423. The capital employed by this woman, however, was over \$16,000. There were thirteen farms in the district capitalized by over \$15,000, and the average labor income on these farms was \$1,164. It seems that this most successful woman fell considerably short of the average success secured by all the farmers using similar capital. The average labor income made by these thirty-two women was \$137, which was



a little less than one-third the average labor income made by all farmers in these four townships. This low average for the women is further explained as follows: "With a few possible exceptions, these women are concerned with the business of farming simply as a result of chance. It was not their choice to be farmers. Nearly all were wives or daughters of farmers and inherited their farms. About half of those who own farms continue to make the farm their home rather than rent it. A few of these women have taken up the business of farming and engaged in it actively. Others are living on the farms and accepting such incomes as the farms furnish, without making much effort to increase the business. If we could eliminate from the calculations the incomes of those who just lived on their farms and did not really farm them, the average income made by these women would undoubtedly be greater."

While general farmers must always largely outnumber special farmers, it seems probable that women will usually find some lines of special farming more attractive because better adapted to their peculiar abilities. The writer has interviewed persons in a number of the departments of the College of Agriculture as to facts and as to their opinions regarding women engaging in their line of work. The following statements are largely based on information thus gained.

The handicaps mentioned above that women meet in farming are probably experienced in full degree in connection with general farming and dairy farming, although some part of the work in dairying, such as milking and butter-making, are often satisfactorily performed by women. The growing of tree fruits presents about the same difficulties to the woman manager, but a farm largely devoted to small fruits would seem to offer a woman a fair field for the exercise of the skill and tact that women usually possess. Often women and children are employed quite extensively in connection with small fruit-growing, and it is eminently fitting that they should be under the supervision of a woman.

Rural art, at first thought, would seem to be attractive to women, and we are told that one woman has arrived at distinction in this line and that six or eight others are striving for recognition. Women apparently are well adapted to doing office work, developing plans, etc., but when it comes to supervising the work of executing these plans, in doing which gangs of foreign laborers are employed, the woman is distinctly at a disadvantage. One Cornell woman, whose father is a grower of ornamentals, has taken up the work of making planting plans for his customers with success. The leading landscape gardeners usually confine their attention to large undertakings, but there is a growing demand from home-makers for assistance in developing smaller places, and it would seem that by being in close relations with the growers of ornamentals many women might develop a lucrative trade.

Vegetable gardening seems to be better adapted to woman's

management than the lines mentioned above. However, the early hours of the morning at which vegetables are put on sale in nearly all markets makes it undesirable for women to give personal attention to the details of marketing.

Floriculture attracts a relatively large number of women, and in many respects seems to be well adapted to woman's work. In some of its phases there certainly is an opportunity for women to display their skill, tact, and taste. The humidity and high temperature of the green houses and the low temperature of the floral design room may not be favorable to good health.

It is claimed that in both vegetable gardening and floriculture there is considerable demand for women to do school garden teaching and to give instruction to women in correctional institutions. The production of improved vegetable and flower seeds also seems to hold out some inducements, but plant breeding in general seems to be based on and must follow the practical production of crops.

Bee-keeping would seem to lend itself to woman's management better than most lines of agricultural work, though not a large proportion of women seem to have entered the ranks of professional bee-keepers. There is no reason why women should not learn to make boxes and even hives as well as men, and it would certainly seem that in the care of bees and their products they would excel.

Poultry industry at present attracts the largest ratio of women workers, and seems to hold out the greatest inducements. Practically one-fourth of all professional poultry raisers are women, and certainly a large preponderance of the poultry raised on the farms of the country is in the care of women. Professor Rice states that women are especially successful in handling poultry. When called upon to furnish addresses of poultry establishments worth visiting, he invariably suggests some managed by women. A recent report made by a woman is worth summarizing. This woman had graduated from Cornell in Arts. She went to work in the office of her father, who was a manufacturer of hardware. At the office work her eyes failed. She returned to Cornell and took the Winter Course in Poultry Husbandry in 1911-1912. Going home in the early spring of 1912 she started in to establish a poultry business on the home village lot. In the midst of this effort her father's factory burned. Instead of rebuilding the factory he sold his business and joined her in the poultry enterprise. A twenty-acre place near another village was purchased, and the family, with the incipient poultry business, moved to it. The family consisted of father, mother, and daughter. At the end of the first year the family labor income arising from the poultry business was minus \$330. At the end of the second year it was \$1,055; the third year \$1,575; and the fourth year (1915) \$2,213. Not all persons who start in the poultry business can accomplish as much, but several women have reported results to the Department of Poultry Husbandry that are eminently satisfactory.

My thought is that the considerations presented in this article lead to the conclusion that in most lines of agriculture woman is at a disadvantage in comparison with man, though some women have the force and ability to overcome this disadvantage; but that there are other lines in which woman is likely to find attractive and profitable work. These special lines seem to be attractive to women in the following order: Poultry, floriculture, apiculture, small fruits, gardening. It often happens that two or three of these lines may be united in a single enterprise to good advantage.

## SHALL I TAKE AGRICULTURE

Have I any aptitude that way?

Will experience and training not be of advantage to me in such a course?

Is there a future for the profession of Agriculture?

Just how large a part is Agriculture to have in the training of youth?

Does my chosen field of work demand or need a knowledge of Agriculture?

Is not the trend in education toward making Agriculture the core of all instruction?

Have I the grit to do hard work, to render large service?

Am I interested enough in the primary mode of living and making a living to do my part gladly when the need arises?

Do I believe in preparedness for position and promotion in any given line of advance?

Have I the public weal, and mine, at heart?

"Is it not true that any work is worthy of him who undertakes it?"

—JOSEPH E. WING.

## AMERICANS WHO HAVE BEEN INFLUENTIAL IN IMPROVING AGRICULTURE

GEORGE WASHINGTON—

"I know of no pursuit in which more real and important service can be rendered to any country than by improving its agriculture, its breed of useful animals, and other branches of a husbandman's care."

SEAMAN A. KNAPP—

"The least worthy monument to a man is a granite block or a marble shaft. They represent the dead man's money and the kindness of friends. The true monument is what the man has accomplished in life. It may be a better gate, or house, or farm, or factory; put his name on it and let it stand for him."

LUTHER BURBANK—

"I love the blue sky, trees, flowers, mountains, green meadows, sunny brooks; the ocean when its waves softly ripple along the sandy beach or when pounding the rocky cliff with its thunder and roar; the birds of the field; water falls, the rainbow, the dawn, the noonday, and the sunset—but children above them all. Trees, plants, flowers—they are always educators in the right direction; they always make us happier and better; and if well grown, they speak of loving care and respond to it as far as in their power; but in all this world there is nothing so appreciative as children—these sensitive, growing creatures of sunshine, smiles and tears."

JAMES WILSON—

"Educate the farmer's boy toward a more valuable life on the farm. Uplift the farm home through the education of the farmer's daughter toward greater usefulness and attractiveness in the farm home.

"There is great promise in the fact that whole classes of graduates of agricultural colleges go back to the farms, having learned how to make them more profitable."

LIBERTY HYDE BAILEY—

"The requirements of a good farmer are at least four:

"The ability to make a full and comfortable living from the land;

"To rear a family carefully and well;

"To be of good service to the community;

"To leave the farm more productive than it was when he took it."

## KENTUCKY—DO YOU KNOW HER

Kentucky ranks fourteenth in population and thirty-sixth in area among the States of the Union. According to the 1910 census there are 2,289,905 persons in Kentucky, 6.6% more than in 1900. 75.7% of the people live in rural districts, i. e., places having less than 2,500 population; 67.5% live in the open country and unincorporated places. In the last census period urban population grew 14.9%, while rural grew only 4.2%. Forty-three counties suffered losses in population ranging from .6% in Butler and Larue Counties to 20.1% in Grant County.

The land area of Kentucky is 25,715,840 acres, 86.3% of this being in farms, and 64.7% of the land in farms being improved land. The size of the average Kentucky farm is 85.6 acres; the average value per farm is \$2,986, the average acre value \$21.83, an increase of 65% over the values of 1900.

Each year Kentucky produces cattle, on farms, to the value of \$26,000,000; horses, \$45,000,000; mules, \$26,000,000; hogs \$9,000,000;



sheep, \$5,500,000; poultry, \$4,400,000; dairy products, \$9,000,000; poultry products, \$13,000,000; animals sold and slaughtered, \$54,000,000.

In the State of Kentucky there are 259,185 farms, of which 34.3% are operated by tenants. That is to say, every third man in Kentucky is homeless. The tenant system is growing in Kentucky, which means more run-down farms and a shifting population. This in turn makes more imperative the call for rural leaders to turn the tide in favor of country life and home ownership.

The Kentucky hen produces each year \$6 for every man, woman and child in the State. The average Kentucky hen lays about 70 eggs a year. A bred-to-lay hen will lay from 165 to 200 eggs a year.

There is a milk cow in Kentucky for every 60 people. Each cow in the state gives on an average 7 pints of milk a day and  $\frac{1}{4}$  pound of butter, losing her owner not less than \$11 per year. Thus by the law of averages, you see, every owner of a milk cow is paying \$11 for the privilege of feeding, milking, and caring for her. The 400,000 dairy cows in the State lose to the owners each year then \$4,400,000, an involuntary tax of \$1.75 on every man, woman, and child in the borders of the State, enough to build and equip in every county of the State a magnificent high school with one hundred acres of land. It is easy to see that many farmers would be better without, and the State would be the wealthier if about 200,000 of these "boarder" cows were sent to the slaughter.

Of the farms of Kentucky, 65,000 report as spending over \$4,000,000 annually for feed. Only Arkansas, Oklahoma, Texas and Georgia exceed this. Is there any reason why that money should not remain at home?

For every dollar invested in manufacturing in Kentucky there are \$4.50 in farm property.

Digest these facts and you will write the "Know Your Own State Club" at Eastern for further information.

## KENTUCKY LEADS

In a recent address before the Advertisers' Club of Louisville, John H. Sutcliffe, of the Inland Farmer, brought out the following interesting facts regarding agricultural products in Kentucky and its relative position among States of the South:

Kentucky leads all States in the Union in the production of tobacco, hemp, sorghum cane, and in thoroughbred horses.

Its tobacco crop in 1915 was 360,000,000 pounds, more than one-third of the total crop of America.

There were 22 States in the Union last year that produced farm products valued at over \$100,000,000. Kentucky was one of these.

Kentucky is the tenth State in the production of corn, its yield last year being over 115,000,000 bushels.

Kentucky stands seventh in the Union in the production of apples,



its crop in 1915 being 12,500,000 bushels. There are nearly 15,000,000 bearing fruit trees in the State of Kentucky.

There are more registered Jersey cattle in Shelby County, Ky., than in any other county in any State in America.

The show rings of the world have demonstrated the value of Kentucky bred stock, not only horses and mules, but dairy and beef cattle, sheep and swine.

Among States located south of the Ohio River, Kentucky leads in nearly every agricultural product.

It has the largest white population of any State south of the Ohio River.

Seventy-five per cent. of its population is rural.

It has more persons worth \$5,000 and over, and more with incomes of \$2,500 per year and over.

The value of farm property in Kentucky is over \$800,000,000, being larger than that of any other State south of the Ohio River.

There are 260,000 farms in the State, with a higher value per acre.

Among the States south of the Ohio River, Kentucky leads in the production of dairy and beef cattle, horses, poultry, sheep, wool, corn, wheat and tobacco, and comes second in hay and potatoes.

There are more silos in Kentucky than in all the other States of the Central South put together.

In 1914 there were registered in Kentucky only 8,750 automobiles. Today the registration is over 20,000.

Kentucky also leads these States in the production of poultry and eggs.

It leads in the purchase and use of modern farm implements and machinery.

In Kentucky there are more farmers who own their own farms, consequently, there are fewer renters and tenants, and there are also fewer negro farmers than in any other State of the South.

# COUNTY AGENTS IN KENTUCKY

JANUARY, 1916

GEOFFREY MORGAN, State Agent

M. O. HUGHES, Western District Agent, Bowling Green

T. H. COLLINS, Eastern District Agent, Richmond

Name	Postoffice	County
1. Bird, Jas. Robt.....	Marion .....	Crittenden
2. Brown, P. D.....	Henderson .....	Henderson
3. Boyd, E. F.....	Minerva .....	Mason
4. Bushong, Dr. P. W.....	Edmonton .....	Metcalf
5. Browder, W. W.....	Hartford .....	Ohio
6. Boggs, Ben F.....	Richmond .....	Madison
7. Casey, A. M.....	Hopkinsville .....	Christian
8. Clayton, W. H.....	Flemingsburg .....	Fleming
9. Felts, R. H.....	Frankfort .....	Franklin
10. Fullerton, D. H.....	Williamstown .....	Grant
11. Finley, A. Y.....	Greenville .....	Muhlenburg
12. Faulkner, E. H.....	Williamsburg .....	Whitley
13. Floyd, O. F.....	Cynthiana .....	Harrison
14. Gentry, J. C.....	Harrodsburg .....	Mercer
15. Hall, Dudley J.....	Barlow .....	Ballard
16. Hollinsworth, G. S.....	Madisonville .....	Hopkins
17. Kelly, Farmer.....	Franklin .....	Simpson
18. Ligon, John M.....	Princeton .....	Caldwell
19. McDanell, Jas. R.....	Warsaw .....	Gallatin
20. McSwain, Horace E.....	Hindman .....	Knott
21. Merriman, F. E.....	Louisville .....	Jefferson
22. Mitchell, B. H.....	Pikeville .....	Pike
23. Morgan, S.....	London .....	Laurel
24. Pittman, Ernest.....	Elizabethtown .....	Hardin
25. Palmore, E. C.....	Tompkinsville .....	Monroe
26. Piggott, Walter J.....	Paducah .....	McCracken
27. Pickett, Henry A.....	Georgetown .....	Scott
28. Richardson, C. C.....	Catlettsburg .....	Boyd
29. Reynolds, W. R.....	Tyner .....	Jackson
30. Rhoads, Wayland.....	Independence .....	Kenton
31. Rogers, W. H.....	Russellville .....	Logan
32. Spence, Robert F.....	Berea .....	Madison
33. Smith, G. A.....	Falmouth .....	Pendleton
34. Sugg, John A., Jr.....	Morganfield .....	Union
35. Tye Wm.....	Barbourville .....	Knox
36. Taylor, J. T.....	LaGrange .....	Oldham
37. Varney, K. L.....	Cadiz .....	Trigg
38. Wilson, W. C.....	Somerset .....	Pulaski
39. Wyatt, G. T.....	Elkton .....	Todd
40. Young, A. C.....	Louisa .....	Lawrence

## AGRICULTURAL NEEDS OF KENTUCKY

Agriculture is so old and has been among us so continually that its needs are lost in familiarity, they are not noticeable because so close. Correct methods and unvarying success are taken for granted. However, as thoughtful, scientific farming advances real, vital needs are appearing and being recognized as such. Too often the recognition comes from non-agricultural sources, likewise the remedies from those who are not primarily farmers.

Some needs of the times are better schools, lower freight rates, more intelligent farming, more careful cultivation. There is no question of the importance of these, but there are others. A danger now imminent in some parts of the State and possible in all sections is the exhaustion of natural resources, timber, ores, soil fertility. Some of our people are now actually facing such a condition. The need is pressing for some substitute or remedy. Perhaps fruit, or poultry, or sheep can in large part, if not wholly, compensate for the passing of lumbering and mining. But to restore wasted fertility and save that which is in process of waste a higher value must be placed on farm manures, both barnyard and green, and a wider use made of them to save eroding soil as well as for plant food. Reforested slopes and humus in tilled soil will conserve the fertility of the hill country. For all sections better balanced rotations will prove helpful. The rotation should in all cases be such as will compensate the soil in organic matter even if not in plant food for the elements of fertility carried off in crops.

Production and conservation, no one disputes, are the key to success in agriculture, as, indeed, they are in nearly all vocations. The nearsighted farmer exploits the former, robbing future generations to satisfy the present. Only the wealthy can specialize on the latter. With plenty of capital there is little trouble in building up soil to a more than virgin fertility to leave posterity a dirt legacy better than title, bonds, or money. The problem for the great body of average farmers is to develop production to the point of competence and conserve for the next generation fertility unimpaired.

While production is the chief end of farming operations it would not be wise, granting it is possible, to double the acre yield on extensive areas, because as soon as the temporary shortage is made up the market would adjust prices; the less the crop the greater the price, and vice versa. This was largely true of corn from 1891 to 1911, more true of potatoes for the same period. Hence, the desideratum is to increase acre-yield and decrease acreage. This would control and satisfy the market, reduce unit cost, improve quality, and provide conditions for better rotations and greater diversification.

Another need actually felt right now is the better disposition of farm products, markets for crops as they are and methods for converting them into forms more in demand, and better handling methods and facilities in both cases. When man raised only those products

consumed in the home there was, of course, no such need, but now that farming has become so highly commercialized it is being felt more and more keenly. Then all needful was the ability to adapt one's needs and tastes to Nature's offerings; in the present age of commercialism a high order of business ability is required. It is not enough that a man be able to grow crops and animals, he must be able also to dispose of them profitably, or eventually go down in the press. This business sense is an economic necessity in all the many phases of this complex modern agricultural life. Co-operation is being generally offered as a panacea for all marketing troubles. In some departments of agriculture it really has surpassed the hopes of the more conservative promoters. When community sentiment crystallizes to the point of unity of feeling or action then co-operation is pretty sure to succeed. Whether it will prove equally successful in large units has yet to be seen.

The art of farming is old; the need of the times is science. Doing things on the farm in blind imitation or after reasonless tradition has brought the farmer to the present state of necessity where he must know more of the law of cause and effect. There are so many contingencies in farming that the mere imitator is constantly in danger of failure, and a certain adaptability is essential to the greatest success. This resourcefulness than can cope with the whims of nature comes with the understanding of the basic principles, the ultimate why, of every process of agriculture. This is indeed the age of scientific farming. The highest success will come from the thorough understanding of the fundamental reasons for everything done, from an accurate knowledge of all results likely to follow, and from a careful and thorough going way of doing farm work. Here lies the field for education, and it must reach its object largely through demonstration. There is literature, almost superabundant of the kind, telling explicitly how to farm, and adequately setting forth the reasons, but the insistent demand of the masses of the farmers is to see it done. The slogan of educational forces is and must be DEMONSTRATION. Witness the agricultural trains, experiment and demonstration farms, agricultural advisers, county agents. In line with the demand of the times let us, while not neglecting the know-how phase, develop the show-how element of agricultural education.

In this connection a warning may be in order. When the expert gets a chance to advise the farmer, he must not recommend hastily or theoretically, least of all dogmatically. Here is a case for extreme caution, for all possible certainty, for experience to speak with conviction. One failure taints the entire system and destroys more confidence than a dozen successes will produce. Due allowance must always be made for ever varying conditions and particularly for different men to carry out suggestions and interpret results.

Then there is need of an improved rural life. Life in the country is cramped, unsocial, mean, such conditions as cannot exist without



disaffecting the entire community. These unfortunate conditions have grown out of an over-developed individualism which has so long segregated the farmer that he has stagnated on a plane which forbids interest, progress, or content. The discontent arising out of this chronic dullness of country life is a most prolific cause of the social unrest of the country. It is said that a mobile society is democratic. While we like the democracy of it there is no doubt that too great mobility reacts harmfully on the industries, more particularly that primary industry, farming. There is a very vital relation between quality of life and quality of food. The uninterrupted advance of civilization depends very definitely on the proper supply of food of standard quality. To standardize or improve the food supply of the nation it is necessary to begin at the source of supply, the American farm, yes, even with the farmer himself. The first step in improving any product is to improve the producer, the improvement of all things else will follow in due season. Now, manifestly, it will be difficult, if, indeed, not impossible, to improve a shifting farm population such as results from the fact that our best farming talent, just as soon as it has earned a competency and put farm life on a higher plane, hies itself to town, leaving the land in the hands of self-interested tenants whose average tenure is about two years. The result: unsatisfying homes, futile schools, abandoned churches, low ideals, mere neighborhoods instead of real communities. All this means that rural life must be made fuller, richer, more liberal, more satisfying; it ~~must~~ maintain itself at a higher level, and be able, by its very attractiveness, to hold its better elements.

Farming is distinctively a home-making industry, every enterprise centering in and building about the home. Comparatively few people engage in farming unless they have family connection. This is due to the social instinct, the compelling demand for companionship, and is entirely natural owing to the fact that no other industry so isolates the individual workers during daylight hours. For the farm family, then, the table must be the forum, the hearthstone the rallying place. And certainly the home is the social center for the country-side, supported by school and church and community spirit. Then it must be evident that this heart of rural life, the home, must be made more attractive, more convenient, better appointed; the home life more wholesome, more cultural, freer, happier. The farm home of all the abiding places of earth should ennoble by its dignity and repose, should safeguard by its seclusion and sanctity, should inspire by its hallowed memories, its personal appeal, its family traditions.

That we have a rural problem distinct from the problem of the cities is undeniable. That it bears on national integrity and race advance must be conceded from the fact that the country is the recruiting ground for the cities and their industries, from the fact that the world's best talent is, almost without exception, not more than



four generations removed from the soil, from the fact that 86% of the raw material going into our manufactures is the product of the cultivated soil, and from the patent fact that the "farmer is the chap that feeds them all." In the interest of humanity this rural problem must be solved. In extent and seriousness, in difficulty and reward of success it is worthy of our best brains, yea, the masters. Some of our best thinkers are blazing the way to the betterment of many phases of country life, but we need legions of such men and women, men and women of power and personal magnetism in local communities to take the lead in trying out new things, in establishing and applying new principles, in helping by example the masses to put into operation new and improved systems. He that contributes to the solution of this problem to that degree becomes a benefactor to the race. No man, having put his hand to the plow, and looking back, is fit for the kingdom.

In summary, Kentucky has been agricultural from the beginning, she has had her fertility exploited, her farmers are well versed in the ART of farming, she feels keenly the need of an outlet for her products, she contains part of the most typical of retarded civilizations, her average farm homes are far from ideal. Hence, the needs recited above are not at all foreign, but our very own, crying unto us the promoters and sponsors of the Kentucky that is to be. Our vaunted State is in sore need of a conserved and a restored fertility, a scientific agriculture, better roads and wider markets, true homes, a more homogeneous civilization. These needs can not be relieved without capable leaders. Kentucky's greatest need, then, in field and market, in school and church, in society and government, is level-headed constructive leadership.

## THE IMPORTANCE OF AGRICULTURE IN THE RURAL SCHOOLS

A. B. THOMAS

Our rural schools might be well termed the farmers' schools, because the great mass of rural people in our State in the main have no other school to which they can conveniently send their children for educational growth. If we agree with the best thought of the times we must say that these schools have in a great measure failed. They have failed for lack of purpose. They have failed in not having recognized that the claims of the home should be the claims of the school.

Until recent years we had not discovered that the instruction given in these schools was the main reason for rural depopulation. Now that this fact is known our people are making every effort to direct the work of the rural schools along more utilitarian lines. Not that they wish to surrender culture, but that they may relate the schools closer to life. If the rural schools are the farmers' schools

they should make of the farmers' boys better farmers, better men for a better country.

In order to do this, the subject of Agriculture, which has been so long neglected, should be taught in every farmer's school. When this is properly done not only will more people remain in the country districts, but a bigger, more skilled and more intelligent class will make their homes there. The country boy who went to the city because his education would not function on the farm will then return to the farm to live and enjoy life. His younger brother will remain there happy and content. He will not leave the rural community, because the school has better prepared him to live there than elsewhere.

The following are a few suggestions for teaching Agriculture in the Rural Elementary Schools:

Agriculture and Nature Study will naturally fall in the same channel, and so both subjects should be taught together. If they are taught separately Agriculture should follow Nature Study and should not be given as a separate branch until the seventh and eighth grades, when it may alternate with physiology and hygiene or with civics. It should be begun in the middle of the seventh year, because it allows the pupils a growing season between the beginning of the work and its completion. The pupils will also have opportunity to conduct some simple experiments on farm and garden crops, which will help them to return in the fall of the eighth year with increased interest and a better insight into the subject.

When Agriculture is taught as a separate subject a textbook should be used, but if the teacher is bigger and knows more than is contained in the text-book, which should be the case, she will use collateral reading.

The work should be planned by months, sometimes called the monthly sequence plan, which is supposed to be adapted to the seasonal, agricultural and school conditions of the community. Two things may be accomplished by presenting the lessons in the subject of agriculture at the same time the main facts in the lesson are being practiced; namely, the work of the classroom may be greatly vitalized by having real material at hand for practical work, and the things which the farmer had best do are taught at a time they should be done on the farm.

Alternating Agriculture with other subjects, you could not hope to get in more than ten or twelve lessons in one month. Here I wish to submit an outline of what I consider to be ten very helpful and appropriate lessons for the month of September:

A. Lesson One—

- a. Subject: Soil.
- b. Topic: Winter Cover Crops.
  - 1. Purpose.
  - 2. Kinds of cover crops.
  - 3. Dates of seeding.
  - 4. Rates of seeding (Bus., lbs., etc., per acre).
  - 5. Methods of seeding.
  - 6. Inoculation.

B. Lesson Two—

- a. Subject: Green Feed.
- b. Topics: (1) silage; (2) forage crops.
  - 1. Crops used.
  - 2. Stage of cutting crop.
  - 3. Chopping the material.
  - 4. Packing the silage.
  - 5. Fitting doors and covering silage.
  - 6. Feeding silage.
  - 7. Forage crops: Kinds used, etc.

C. Lesson Three—

- a. Subject: Crops.
- b. Topic: Selecting seed corn.
  - 1. Select in the field.
  - 2. Study of the stalk.
  - 3. Study of the ear.
  - 4. Storing seed corn.

D. Lesson Four.

- a. Subject: Hogs.
- b. Topics: Plan for seasonal pasture.
  - 1. Succession of crops for hogs.
  - 2. April 1-May 1 (crimson clover and rye).
  - 3. May 1-July 1 (winter barley, winter oats, vetch, red clover).
  - 4. July 1-August 15 (rape and cow peas sown separately or together).
  - 5. August 15-September 15 (red clover).
  - 6. September 15-December 15 (Corn).
  - 7. Reasons for plans.

E. Lesson Five—

- a. Subject: The orchard.
- b. Topic: Gathering apples.
  - 1. Importance.
  - 2. When apples should be picked.
  - 3. Methods of picking.
  - 4. Vessels for fruit.
  - 5. Practical exercises.
  - 6. Discussion of topic in language papers.

F. Lesson Six—

- a. Subject: Vegetable and fruit gardening.
- b. Topics: (1) The home garden; (2) small fruits.
  - 1. The home garden.
  - 2. Saving seed.
  - 3. Planting fall vegetables.
  - 4. Small fruits.
  - 5. Grapes.
  - 6. Practical exercises.
  - 7. Discussion of language papers.
  - 8. Arithmetic problems.

G. Lesson Seven—

- a. Subject: Poultry.
- b. Topic: Poultry houses.
  - 1. Site.
  - 2. The house—plan, construction, etc.
  - 3. Equipment of the house.
  - 4. Language lesson.

H. Lesson Eight—

- a. Subject: Dairying.
- b. Topic: Care and feed of fresh milkers and young calves.
  - 1. Feed and feeding of cow.
  - 2. Care of cow.
  - 3. Diseases (milk fever, etc.).
  - 4. Young calves (feed, etc.).
  - 5. Language lesson.

I. Lesson Nine—

- a. Subject: Flower garden.
- b. Topic: Home and school.
  - 1. Care of growing flowers.
  - 2. Preparing for fall planting.
  - 3. Planting.
  - 4. Handling plants.
  - 5. Practical exercises.
  - 6. Language lessons.

J. Lesson Ten—

- a. Subject: Farm Management Suggestions.
  - 1. Crops.
  - 2. Farm animals.
  - 3. Horticulture (care of trees, etc.).

A series of lessons can be very easily arranged to cover every month in the year. I especially suggest this as the most practical plan to follow during the school months. It has been shown by scientific investigation that a large per cent. of the children entering the rural elementary schools return to the farm to make a living. Since this is true the only natural and logical thing to do is to lay most stress upon Agriculture and the subjects pertaining to it, for

this will be the life occupation of the majority of boys and girls entering these schools. Some will say, "Let the home do this work," but we may answer them by saying that a stream cannot rise above its source, and there is a limit to the power of the home at this point. A farmer cannot teach his boy more than he himself knows. Therefore Agriculture is absolutely essential in order that the work of the rural school may be more closely related to the life of its people; in order that it may foster a contented, instead of a discontented people; in order that the best class of people may make their homes in the country.

Let Agriculture be used as subject material for teaching The Three R's. Let the whole course of study for the rural schools be underpinned with Agriculture.

## DEMANDS MADE ON THE RURAL SCHOOL

No matter what our vocation we are all vitally interested in education. We glory in a "universal" education. So far this has been a misnomer; it has been one-sided, commercial, partisan. Boys and girls of all classes and all capacities have been taught, despite the Genetic mandate "In the sweat of thy face shalt thou eat bread," that work with the hands is a clear index of failure and in direct proportion, that brain and hand are alternatives, not co-ordinates, that intellectual sharpness is a greater asset than physical strength and manual skill. Thus a premium has been set on mere mental attainments and the daily round of life stamped as irremediable drudgery. The more ambitious and able have qualified themselves more or less adequately for life in other spheres than that in which they are accustomed to move. The "learned" professions have become crowded and the tide has flowed over into commercial channels. Some, the brighter minds, have attained success and fame, thus furnishing the misguided teacher, and parent, with more and new models to dangle before the eyes of the young. The most pernicious effects of this irrational system are to be found in rural life, always considered remotest from culture, learning, and that full and satisfying life pictured to exist only in coteries called professions and in select districts called cities. Such teaching is most dangerous in country districts because country life interests are so radically different from those of the cities, and of tradition, because it saps the life fluid of the fundamental industry of human activities, because it does violence to the very civilization for which and by which it is maintained. This mischievous system of education and the gross neglect of rural civilization have set the cityward current. What will turn it again to the country?

Surely a factor of such potency in causing and disseminating this error and mischief will be invaluable, the proper agency, in correcting both. Upon the schools, the great common schools, rests the responsibility of redeeming the pledges of universal education and spiritualiz-



ing country life. What can be done to secure the highest efficiency from the rural school?

Any institution must justify its existence by serving the interests of those who support it. The school should be no exception; it should be made to measure up to this standard as rigidly as a savings bank, a creamery, a theater, or a church. It is high time the school ceased to be a self-justifying institution and accepted its manifest destiny, community service. Let it be supported "according to the fruit of its works."

It is coming to be recognized that the school should be a source of strength to its people, that it should give the child, while yet under parental roof and influence, training for the problems of life as he is to live it. To do this the program of studies must be based on the life and dominant interests of the community it is to serve. As farming and home-making are the leading activities in rural districts Agriculture and Domestic Science will stand at the head of the program. With these as a core it is easy to correlate other essentials and cover the ground common to universal education. Here it is proper to say that there is no antipathy between cultural and vocational subjects in the rural school, not in agricultural schools.

Correct principles of education demand that the child be led from the known to the related unknown, that new experiences be interpreted in the light of old ones. As the child grows up under the shadow of his community need his experiences are colored by it. Then to build on the basis of the child's experiences, to give instruction complementary to them, which is both good pedagogy and good economy, is to minister in a direct way to the needs of the community. Now, as new knowledge reacts on old, if the instruction be so given as to affect present practices existing conditions will be improved among the people at large.

As the members of a community group have usually the same needs and interests they are amenable to the same teaching and benefited by common measures. This simplifies the problem of studies and equipment for the school. But communities differ as wholes in their activities and ideals, hence one type of school cannot serve all. The school in its entirety must be formed to meet the special requirements of the community where it is to operate. A teacher, to command the highest success in any particular school, must have the personality and adaptability and preparation that fit him to carry out the purposes for which the school is supported. It is a versatile teacher indeed who can move from community to community rendering equal and good service to all. It is impracticable if indeed not impossible to have institutions to prepare individual teachers for work in specific localities. This is not desirable; they would be far too narrow. The Normal does it a better way and gives the teacher a liberal and well balanced course that prepares him to render good community service in any reasonable position. It is for this that Normals are

maintained and the courses changed and increased to keep pace with the ever advancing standard of education. It is to provide for the schools of Kentucky such many-sided and capable teachers that the following courses are offered in the Eastern Kentucky State Normal:

#### **AGRICULTURE—A.**

This is first of all a beginner's course, covering, as it does, almost the entire field of Agriculture in a general way. The purpose of this course is to insure a broad, secure foundation, a grasp of fundamentals, and a just perspective. While this is the introductory course in the Normal Agricultural courses, it is expected that the student will come to this work with some degree of maturity, experience, and knowledge. Nature Study, Botany, Zoology should be pre-requisites, and it would be well that an elementary course in Chemistry precede. Almost all other subjects will somewhere correlate with and aid in the understanding of some phase of Agriculture.

In addition to being held responsible for the essentials of the text, students will do many supplementary exercises and some practical experiments to reinforce the work. Collateral reading and the written development of specially assigned topics will be required. Considerable work will be done in the school garden in season, and observations made at and illustrative material drawn from Stateland, the Normal Demonstration Farm.

For those who can take but one course in Agriculture, who have never had any Agriculture, who are preparing to teach only elementary work in this subject, this course is prepared and specially recommended.

#### **AGRICULTURE—B.**

In this course soils and fertilizers are studied as intensively and as broadly as time permits. A knowledge of the soil and its requirements and an understanding of the principles of correct management are fundamental to successful farming and to all other advanced studies in Agriculture. The fact that there is practically no more virgin soil and that the soil now under cultivation is fast being exhausted is forcing home to the farmer as never before the imperative need for conservation of soil fertility, beyond question the greatest asset of the race. Conservation is the watchword of State and Nation, and should be the guiding principle of the individual, particularly the farmer. In this course the student can get the knowledge and the spirit.

Exercises and experiments will make up a proportionate part of the course. A laboratory is provided for this part of the work, but a considerable part will be in the living laboratory, the school garden and Stateland. First-hand knowledge is of supreme importance in the realm of natural science.

#### **AGRICULTURE—C.**

In this course a rather complete general study is made of the major farm crops of Kentucky. Chief emphasis will be placed on

crops locally important. Some latitude will be allowed students in selecting the crops to be studied, that their particular needs may be met and the greatest usefulness attained.

The selecting, judging, grading, testing of seeds; the planting, cultivating, harvesting, storing of crops; treating for disease and insect pests; using and marketing to greatest advantage will make up the subject matter of this course.

In this course students will begin to see and to get results from the application of principles learned in preceding courses. School garden and farm play a very important part in this course. No indoor work can compensate for the lack of real plant and student growth in the open. Neighboring farms will be used as working laboratories as far as time and distance make possible.

#### AGRICULTURE—D.

This course covers in a general way the branch of Agriculture known as Animal Husbandry, apportioning the time among horses, cattle, hogs, sheep and poultry. Something of the history, value, and importance of each class; types, breeds, and strains in the five classes; breeding, feeding, management, and disposition of the various classes of animals and their products; elementary exercises in scoring animals make up the content of this course. The live stock at State-land and nearby farms will be the laboratory material. The course will be reinforced by parallel reading, problems, and written work, and an acquaintance with live stock publications.

It is the purpose of this course to lay a good foundation for practical use and for further study. It is hoped, through teachers and youth, to interest and instruct live stock farmers to the end that their animals may have better care and the farmers better animals. When this end shall have been attained, the money that we now send to Europe for live stock will remain at home.

Is it not meet that we should know more about our domestic animals, which feed us, clothe us, carry us, work for us, furnish us recreation and sport? Furthermore, the inter-relation between animal and plant is vitally close; the plant feeds the animal, the animal restores fertility to the soil to feed more plants.

#### AGRICULTURE—E.

In the spring terms very practical instruction is given in the principles and practices of vegetable gardening. For a study of the various garden crops a text book is used. The major portion of the course consists of actual work in the gardens on the campus. Each student makes his garden plan and goes out and executes it. Then these student teachers are put in charge of the grades of the Model School to help them plan their plat gardens and to supervise these children in planting and caring for their plats. Thus the teacher gets theory, practice, and supervisory training.

In the work of farm orcharding the practical dominates. Grafting is taught and each student is given a chance to graft apple and pear seedlings during the winter season. From ten to twenty thousand of these are grafted by the students and sent to their homes.

Budding is also taught and practice work given in the fall on seedlings started the fall before. Harvesting, packing, and marketing fruit are given careful attention. Demonstration work in trimming and spraying is carried on in the spring and summer terms.

A textbook is used, but much information is drawn from fruit papers, bulletins, lectures, and the actual experience of the teacher, who is a practical nurseryman and orchardist of several years' experience.

#### AGRICULTURE—F.

In this course the student works out some of the real problems of the farm and farm practices, choosing the farm for satisfaction and success, replanning it for convenience and profit, proportion of crops and live stock, distribution of capital, cropping systems, economies in machines, advertising and marketing, keeping records and accounts.

The work is made concrete by drawing on the knowledge and experience of the students, problems of their home farms and people, and by making surveys of local farms and studying their systems and problems, recommending replans and helps.

The above outline covers in a brief way the requirements in the more technical of the Agricultural courses required for the elementary certificate. Beyond the elementary course the work of these same courses is subdivided and specialized. See table of course by years. Note that B course above expands into the B group, C into C group, D into D group, E into E group, and F into F group.

Study the tabular arrangement of courses following.

## INDUSTRIAL COURSES, AGRICULTURE AND ALLIED SUBJECTS

### FOUNDATION WORK—

A1. Elements of Agriculture.

### AGRONOMY—

#### Soils—

B2. Principles of Soils and Fertility.

B3. Soils Management and Fertility Problems.

#### Crops—

C0. General Field Crops.

C4. Corn and the Corn Crops.

C5. Small Grains.

C6. Forage Crops.

C7. Special Crops.

#### HORTICULTURE—

D8. Principles of Vegetable Gardening.

D9. Farm Orcharding.

D10. Landscape Gardening.

#### ANIMAL HUSBANDRY—

E0. Live Stock of the Farm.

E11. Horses and Cattle.

E12. Hogs and Sheep.

E13. Dairying.

E14. Poultry.

E15. Feeds and Feeding.

E16. Principles of Breeding.

E17. Live Stock Judging, Advanced.

#### FARM MANAGEMENT—

F18. Organization and Supervision.

F19. Engineering and Mechanics.

F20. Accounts and Records.

F21. Design and Construction.

#### RURAL SCIENCES—

G22. General and Agricultural Bacteriology.

G23. Rural Sanitation and Hygiene.

G24. Rural Economics.

G25. Rural Sociology.

#### EDUCATION—

H26. Observation of Agriculture Teaching.

H27. Practice Teaching in Agriculture.

H28. Agriculture in Elementary and High School, History and Management.

H29. Agricultural Journalism.

H30. Agriculture Seminar.

#### MANUAL TRAINING—

Shop Work in Wood.

Shop Work in Iron.

Farm Carpentry.

Home Cabinet Work.

Organization and Teaching of M. T.

#### HOME ECONOMICS—

Principles of Cookery and Foods.

Fundamentals of Textiles and Sewing.

The Country Home, its Management.

Home Economics for Rural Schools, Organization and Teaching.

#### DRAWING—

Pencil Sketching, Free Hand, Perspective.

Mechanical 1, General Principles.

Mechanical 2, Rural and Agricultural Applications.



## CHEMISTRY—

Fundamentals of Chemistry.  
Elementary Qualitative Analysis.  
Chemistry of Agriculture.

## BIOLOGY—

General Biology.  
Botany.  
Zoology.

# COURSES IN AGRICULTURE

## First Year—Elementary (Sophomore)

Nature Study.

- K41. Biology.
- K42. Botany.
- K43. Zoology.
- A1. Elements of Agriculture.
- B2. Soils and Fertility.
- C0. Farm Crops.
- E0. Animal Husbandry.
- D8. Vegetable Gardening.
- D9. Horticulture.
- H26. Observation of Agriculture Teaching.

## Second Year—Intermediate (Junior)

- C4. Corn and Kindred Crops.
- C5. Small Grains.
- C6. Forage Crops.
- E11. Horses and Cattle.
- E12. Hogs and Sheep.
- E15. Feeds and Feeding.
- F18. Farm Management—Organization and Operation.
- G22. General and Agricultural Bacteriology.
- G24. Rural Economics.
- H27. Practice Teaching in Agriculture.

## Third Year—Advanced (Senior)

- B3. Soils Management and Fertility Problems.
- E13. Dairying.
- E14. Poultry.
- E16. Principles of Breeding.
- F19. Farm Engineering and Mechanics.
- F20. Farm Accounts and Records.
- F21. Design and Construction on the Farm.
- G23. Rural Sanitation and Hygiene.
- G25. Rural Sociology.
- H30. Agriculture Seminar.

# INDUSTRIAL COURSE—MAJOR, AGRICULTURE

Applicants for this course must hold a Common School Diploma or a First Grade County Certificate.

## PRELIMINARY WORK

\*Arithmetic 3  
Grammar 2 or English 2  
School Management 1  
Physiology 2  
Penmanship  
Professional Reading 1  
Nature Study

### State Certificate Course—Elementary (Sophomore)

Phys. Geog. 1	Phys. Geog. 2	Algebra 1	Algebra 2	Expression 1
Grammar 3	Sch'l Mgt. 2	English 3	English 4	Method 1
Civics 2	Music 2	Psychol. 1	Drawing 2	Athletics 1
Music 1	Handwork	Drawing 1	Prof. Read. 2	Hom. Econ. 2
Observation 1	Man. Tr. 1	Hom. Eco. 1	Agri. D8	Agri. D9
Biology	Botany 1	Zoology	Agri. E0	Agri. H26
Agri. A1	Agri. B2	Agri. C0		

### State Certificate Course—Intermediate (Junior)

Algebra 3	Algebra 4	Geometry 1	Geometry 2	Expression 2
English 5	English 6	Observa. 2	Psychol. 2	Method 2
Chemistry 1	Man. Tr. 3	Prof. Read. 3	Drawing 3	Mechan.
Agri. C4	Agri. C5	Hom. Econ. 3	Athletics 2	Drawing
Agri. E12	Agri. E11	Agri. E15	Agri. C6	Agri. G22
		Agri. G24	Agri. F18	Agri. H27

### State Certificate Course—Advanced (Senior)

Geometry 3	Geometry 4	Arith. 4	Hist. 2	History 3
Chemistry 2	Gener. Method	Physics 1	Libr. Meth.	Hist. of Edu.
Man. Tr. 2	Observation 3	Prac. Teach. 1	Man. Tr. 8	Rural
Agri. E13	Agri. B3	Hom. Econ. 5	Agri. F19	Recreation
Agri. F21	Agri. E14	Agri. E16	Agri. F20	Agri. G23
	Sen. Seminar	Agri. G25	Thesis	Agri. H30

The satisfactory completion of any of the above courses entitles the student to the regular State Certificate for that particular course and in addition a special Agricultural Industrial Certificate of Proficiency.

Taking the Advanced Certificate entitles one to a special Supervisor's Certificate in Agriculture.

## A BRIEF SELECT LIST OF BOOKS FOR THE TEACHER OF SECONDARY AGRICULTURE

(The first one in each group is good for Teachers of Elementary Agriculture)

### GENERAL—

Beginnings in Agriculture.....	Mann
Agriculture.....	Benson and Betts
Agriculture and Life.....	Cromwell
Essentials of Agriculture.....	Waters
Elements of Agriculture.....	Warren
Fundamentals of Agriculture.....	Halligan

## SOILS AND FERTILIZERS—

First Principles of Soil Fertility, Rev.....	Vivian
The Farm That Won't Wear Out.....	Hopkins
Soils and Soil Fertility.....	Whitson and Walster
Maintenance of Fertility.....	Thorne

## CROPS—

Productive Farm Crops.....	Montgomery
Wheat, and other crop titles in Macmillan's Industrial Series.....	
Field Crop Production.....	Livingston
The Corn Crops.....	Montgomery
The Forage Plants.....	Piper
The Small Grains.....	Carleton

## ANIMALS—

Beginnings in Animal Husbandry.....	Plumb
Farm Animals.....	Hunt and Burkett
Management and Feeding of Cattle.....	Shaw
Productive Horse Husbandry.....	Gay
Productive Swine Husbandry.....	Day
Management and Feeding of Sheep.....	Shaw
Principles and Practices of Poultry Culture.....	Robinson
Dairy Farming.....	Eckles and Warren
Principles and Practice of Judging Live Stock.....	Gay
Productive Feeding of Animals.....	Woll
Breeding Farm Animals.....	Harper

## FRUIT—

Beginners' Guide to Fruit Growing.....	Waugh
Productive Orchardng.....	Sears
Principles of Fruit Growing, 1915 Ed.....	Bailey

## GARDENING—

Beginners' Garden Book.....	French
Practical Garden Book.....	Bailey and Hunn
Productive Vegetable Gardening.....	Lloyd
Vegetable Gardening.....	Watts

## MISCELLANEOUS—

Manual of Weeds.....	Georgia
Practical Farm Drainage.....	Elliott
Farm Management.....	Warren
Fundamentals of Plant Breeding.....	Coulter
Diseases of Cultivated Plants.....	Massee
Insect Pests of Farm, Garden and Orchard.....	Sanderson
How to Keep Bees for Profit.....	Lyon
Diseases of Animals.....	Mayo
Agricultural Engineering.....	Davidson
Field Management and Crop Rotation.....	Parker
Principles of Rural Economics.....	Carver
Constructive Rural Sociology.....	Gillette
The Teaching of Agriculture in the High School.....	Bricker
Materials and Methods in High School Agriculture.....	Hummel
Agricultural Education for Teachers.....	Bricker